

HOWARD COUNTY COURTHOUSE

Draft Report
January 11, 2017

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Introduction

Project Description

Site

Howard County Government
Dorsey Building
9250 Bendix Road
Columbia, MD 21045



Scope

- 227,000 gsf of space with 600 space parking garage
 - Includes 8 court sets
 - Meets projected 2036 needs
 - Revised square footage includes approved program needs by all groups that will be utilizing the courthouse

Not included in scope

- Relocation (temporary or permanent) of existing uses and services in the Dorsey building
- Any associated real estate developments on areas of the parcel beyond the envelope of the new courthouse and parking garage

Project Purpose and Need

- Population growth: Since the 1983 addition to the courthouse, the County population has grown by more than 142% increasing demand on all court services.
- Caseload growth: Since 2005 non-domestic cases have grown by 10%, civil domestic cases by 20% and reopened case by 50%.
- Space needs:
 - The Circuit Court has been approved for a 6th judge but the courthouse does not have space to accommodate the need.
 - The Jury Assembly room is too small to accommodate the larger selection pool required for some criminal cases this requiring jury selection over two days.
 - Not all courtrooms can accommodate a jury requiring cases to be staggered.
 - Not all juried courtrooms have jury deliberation rooms further requiring the staggering of cases.
- Security Concerns
 - Adequate spaces to accommodate security needs at courthouse entrances, hallways and in courtrooms is needed.
 - Lack of an enclosed prisoner Sally Port.
 - The public, prisoners, judges and court staff share hallways.
- The consolidation of County legal services such as land records, States Attorney's Office and Sherriff's Office would increase the Court's efficiencies.
- Ancillary programs like Juvenile Services, Department of Social Services don't have dedicated space in the courthouse hampering their efficiency.

Project definition and scope

Project Scope for Analysis & Comparison

- \$137.47M construction cost based on:
 - 227,000 gsf vertical court house design, build, operate and maintain (increased from original estimate of 207,000 sqft to meet 2036 projected need)
 - 600 space structured parking garage design, build, operate and maintain
 - 8 court sets
 - 6,000 gsf of cafeteria and staff fitness center
- Operate courthouse: utilities, water & sewer, HVAC, janitorial, building security, landscaping, trash removal, window washing, snow removal, and insurance
- Operate structured parking garage
- Maintenance (both courthouse and structured parking garage): maintenance and repairs—routine and major maintenance
- Project site: Howard County Government Dorsey site
- Project term: 30-year financing and O&M

Excluded from Analysis and P3 Procurement

- Furniture for staff, courtrooms, and public spaces
- Relocation of existing uses and services in the Dorsey Building
- Demolition of Dorsey Building
- Any real estate development on areas of the Dorsey parcel beyond the envelope of the new courthouse and parking garage
- Redevelopment of existing courthouse

Purpose and limitations of the analysis

Purpose of the analysis

- This preliminary financial and value for money assessment aims to answer the following main question:

What are the indicative financial implications for Howard County of various delivery and financing options for the implementation of the Court House Project?

- This analysis and the answer to this question is intended to support an “in-principle” decision by the County Council on the delivery and financing model for the Court House Project in late February / March 2017.

Limitations of the analysis

- After this initial selection of the delivery and financing model, the project team will further structure the project, refine financial and risk analyses, and prepare the procurement.
- Before launch of the procurement, it is recommended that the County Council make a final decision on the delivery and financing model on the basis of more detailed information.

Data used in analysis and scope of analysis

Data used in analysis

- The financial advisor was requested to prepare this preliminary analysis within a period of 3-4 weeks and has used information previously prepared by the County.
- To the extent information was not available, the County, its advisors, and the financial advisor have worked together to develop realistic assumptions.

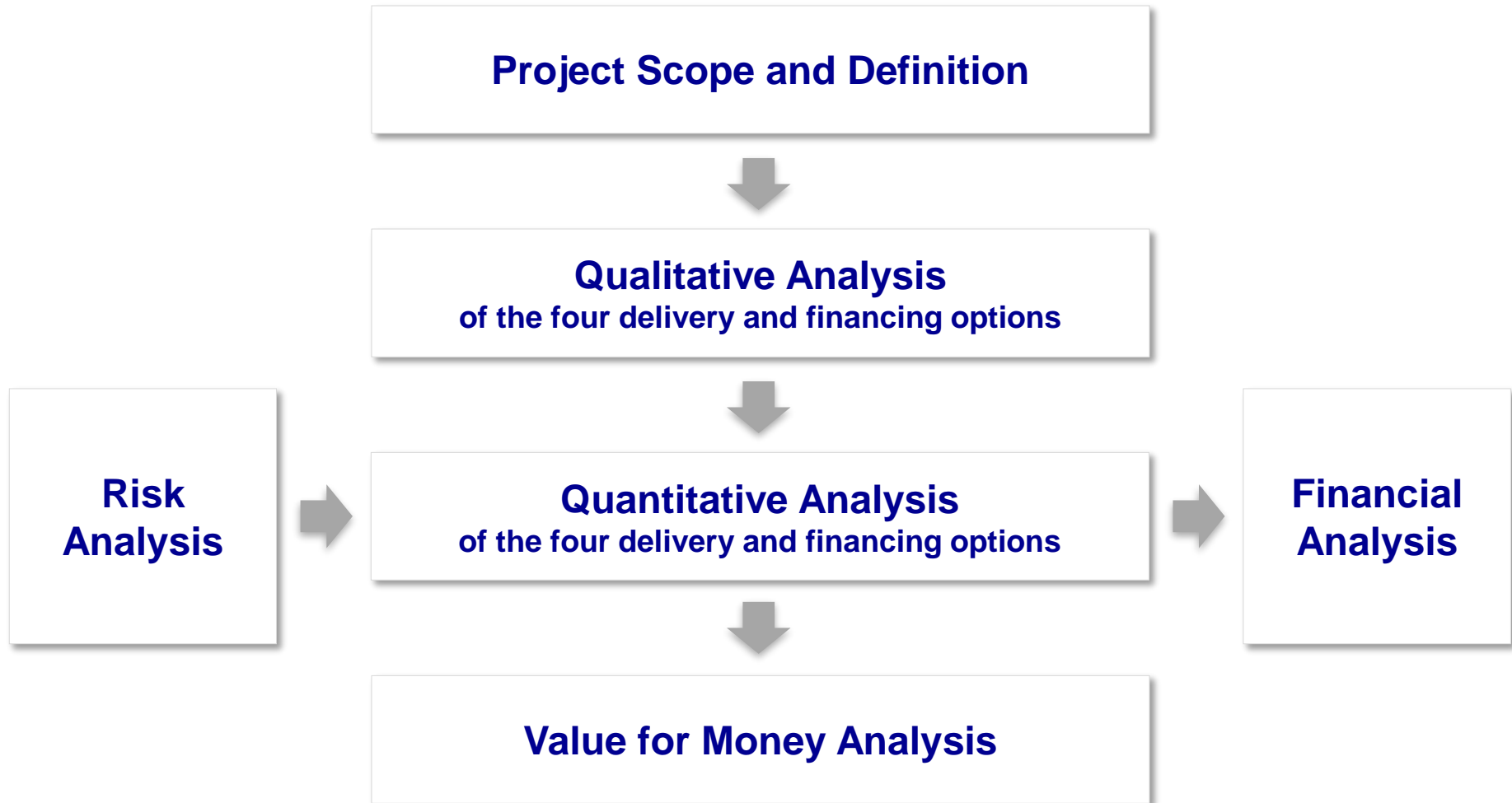
Scope of analysis

- The scope of the preliminary financial and value for money assessment did not include:
 - Detailed risk assessment
 - Benchmark of cost estimates and financing conditions
 - Assessment of tax and accounting considerations
 - Market sounding
- It is recommended to conduct these in the next phase of this project.

Methodology

	Risk Analysis	Value for Money Assessment	Financial Analysis
Definition	<i>High-level assessment of project risks, and the allocation and valuation of risks</i>	<i>Qualitative and quantitative comparison of delivery methods</i>	<i>Analysis of all financial cash flows and risks of the Project</i>
Approach	<ul style="list-style-type: none"> ✓ Identification of all key project risks ✓ Allocation of project risk to the party that can best manage the risk ✓ Indicative risk valuation 	<ul style="list-style-type: none"> ✓ Identify qualitative differences between delivery models ✓ Quantify and monetize differences between delivery models ✓ Compare delivery models on all financial cash flows and risks as well as non-quantifiable differences 	<ul style="list-style-type: none"> ✓ Develop financial model including all cash flows, and NPVs for the four delivery models ✓ Incorporate analysis of all costs, results of the high-level risk analysis, and analysis of uncertainties ✓ Analysis of budget impact, debt indicators, and implications for bond ratings

Methodology



Risk analysis definition and expected outcomes

Definition of risk analysis in relation to this analysis

- Due to the nature of this high-level analysis, this risk analysis will remain high-level, and be used for indicative risk valuation for the high-level VfM and financial analysis
- Risk categories will be used, with examples of detailed project risks within each risk category identified and allocated to the party that is best positioned to manage the risk
- High-level risks for specific delivery models will also be identified


See Appendix II for further discussion of risk categorization and valuation

Expected outcomes of this risk analysis

- Answers the question, “What are the high-level risks that should be incorporated into the analysis and what is an indicative value of risks retained by Howard County and transferred to a private partner?”
- This high-level risk assessment should create an understanding of the risk adjusted difference between P3 and conventional delivery methods
 - It contributes to a better understanding of the potential value driving mechanisms of each delivery and finance option
- Informs understanding of which risks are retained by Howard County for each project delivery method
- Recommendation: Conduct detailed risk analysis, including detailed risk evaluations at subsequent stages of project preparation to help inform appropriate project structuring

VfM definition and expected outcomes

What is VfM?

- The optimum combination of life-cycle costs and quality (or fitness for purpose) of a good or service to meet the user's requirement
 - The VfM concept is used to compare P3 and conventional delivery methods for the same investment project
 - Answers the question, "Which delivery method provides the 'best deal' for implementing a specific project from the perspective of the government?"
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Expected outcomes of a VfM analysis


- Value For Money assessment should create an understanding of the differences between P3 and conventional delivery methods
 - It contributes to a better understanding of the potential value driving mechanisms of the P3 option
- Provides decision makers with better information to determine and optimize all of the project delivery alternatives

The following analysis is a preliminary VfM assessment and is comprised of the following:

- A qualitative discussion of the structural differences between P3 and conventional approach
- A qualitative comparison of key financial elements on the basis of similar P3 projects
- An indicative quantification of the expected differences on the basis of similar P3 projects

Financial analysis definition and expected outcomes

What is included in our financial analysis?

- Analysis of the cash flow for each of the four delivery models, showing Net Present Value (NPV)
 - Analysis of all costs, incorporating results of the high-level risk analysis, and analysis of uncertainties
 - Answers the question, “Does the project delivery option make sense from a financial perspective?”
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Expected outcomes of this financial analysis

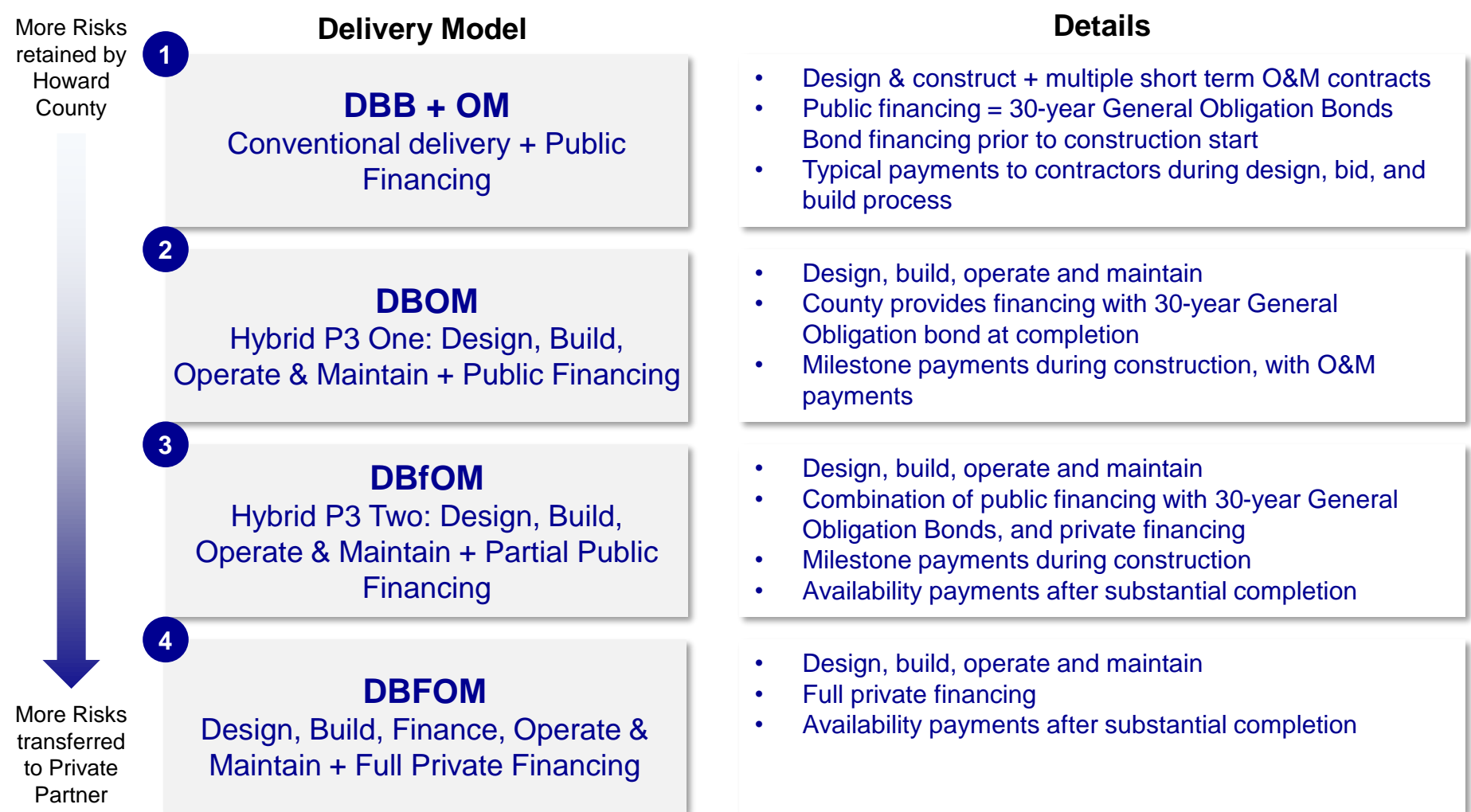
- Provides decision makers with indicative financial information to determine and optimize each project delivery model
- Financial analysis includes cash flows for all four delivery models with NPVs that correct for time and risk using a discount rate
- Two approaches to the discount rate are used in the analysis: (1) a project risk adjusted discount rate for P3 and non-P3 delivery, and (2) a project risk free discount rate for P3 and non-P3 delivery, with a cash flow for retained long term performance, coordination and systematic risks in the delivery models not based on project finance
- Please see Appendix III for further discussion of NPV, and the use of discount rates

Net present value and discount rate methodology

- Financial theory states that a dollar tomorrow is not the same as a dollar today. Consequently, in order to determine the value of the conventional delivery method, the cash flows over time cannot simply be added together. To correct for time and risks, a discount rate is used. This method is called net present value (NPV) analysis.
- NPV calculations are intended to assess the feasibility of a project, a positive NPV means that the project is financially feasible and a negative NPV means that it is not. The analysis of the Court House focuses on expenses only, which makes the NPV number as such not meaningful. The NPV however can be used to compare the various delivery models.
- The use of NPV calculations for the purpose of comparison of cash flows is methodologically defensible if the same discount rate is used for all cash flows, in this case the cash flows for all delivery models. In a value for money assessment two approaches can be used:
 - Approach 1: Use of a project risk adjusted discount rate for P3 and non-P3 delivery
 - Approach 2: Use of a project risk free discount rate for P3 and non-P3 delivery, with a cash flow for retained long term performance, coordination and systematic risks in the delivery models not based on project finance
- This report presents both approaches. For more background on the approaches, please refer to Appendix III.
- For the purpose of NPV analysis, the timelines for all delivery models are considered to be identical, in order to avoid any unintended distortions of NPVs due to timing differences. Timing differences in the comparison of delivery models will be shown in the cash flows as well as the analyses of completion dates.

Definition of delivery and financing options

Four delivery models are being considered for the project



Key Assumptions

Methodology for addressing uncertainty

Purpose

- At this preliminary stage of project development, many uncertainties around key assumptions exist
- Uncertainties exist in cost, and schedule estimates, not related to market circumstances but instead to unknowns with no measurable probability of outcome

Methodology for addressing uncertainty

- For project assumptions with uncertainty such as project costs and schedules, apply an expected value, with a minimum and maximum.
- All expected values were prepared using previous information developed by Howard County
- Minimums and maximums were prepared using the project team's collective professional experience, and represents the most realistic assumptions available at the time of the analysis

Cost assumptions

Capital Expenditures					
	Min	Most Likely	Max	Source	Note
Site work	-5%	\$6,350,000	+15%	Arcadis, "Courthouse Construction Revised IMG 1-7-17.xlsx"	<ul style="list-style-type: none"> Reflects 227,000 gsf courthouse building at \$420 / sf 600 spaces @ \$24,474 / space A/E fee reduced due to straightforward scope Commissioning and PM/CM fees do not apply to parking structure Commissioning and PM/CM fees do not apply to site work
New courthouse building		\$95,340,000			
Parking structure		\$14,684,400			
IT cabling & racks		\$600,000			
Audio visual		\$1,165,000			
Total Construction		\$118,139,400			
A/E fee for construction, site work		7.5%			
A/E fee for parking structure		4.5%			
PM/CM services fee		3%			
Commissioning fee		1.5%			
Total Construction + fees		\$130,924,100			
Overall project contingency		5%			
Overall construction total		\$137,470,300			

Additional assumptions

Operations and Maintenance Expenditures					
	Min	Most Likely	Max	Source	Note
Total operations cost (Real)	-5%	\$273.8M	+15%	Fentress, "Private Shadow Bid #1 – 207000 SF Howard County_2016 10 31 Structure Parking 100% Debt.xlsx" and Fentress estimates for min and mx	<ul style="list-style-type: none"> Includes preventative maintenance, operating costs, maintenance & repair costs, and replacement costs. A 9.66% O&M mark-up was used to account for an increased courthouse size of 227,000 sqft from the original analysis of 207,000 sqft

Economic assumptions					
	Min	Most Likely	Max	Source	Note
Inflation	1.58%	2.5%	3.42%	Bureau of Labor Statistics	Historical average of CPI since 1990

Project development costs retained by Public Agency per Delivery Model

DBB + OM	DBOM	DBfOM	DBFOM
100%	25%	15%	15%
Sources: <ul style="list-style-type: none"> IMG Rebel analysis 			
Note: Project development costs is defined as the overall cost of developing the project up until issuance of the first construction or DB contract. This includes planning, coordination, preliminary design, etc.			

High-level comparison of delivery model schedules

Activities	2017				2018				2019				2020				2021			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Model 1																				
Preparation (includes concurrent design activities)																				
Procurement (construction)																				
Construction (includes site work)																				
Model 2																				
Preparation																				
Procurement																				
Construction																				
Model 3 & 4																				
Preparation																				
Procurement																				
Construction																				

Note: As the exact process for how to integrate the SDP and EA processes into the alternative processes (models 2 – 4) has not yet been finalized, the current schedules shown assume that the SDP process will be initiated as soon as possible, concurrent with design activities undertaken by the bidders / concessionaire.

Schedule ranges

Phase	Expected duration (months)	Min	Max
Model 1			
Design procurement	5	5	5
Design and SDP	16	15	21
Construction	38	37	40
Model 2			
Preparation	8	8	12
Procurement	17	16	21
Construction	24	23	27
Model 3 & 4			
Preparation	9	8	12
Procurement	21	20	24
Construction	24	20	24

Note: As the exact process for how to integrate the SDP and EA processes into the alternative processes (models 2 – 4) has not yet been finalized, the current schedules shown assume that the SDP process will be initiated as soon as possible, concurrent with design activities undertaken by the bidders / concessionaire.

Financing assumptions

Public Financing Assumptions	Min	Most Likely	Max	Source	Note
GO Bond Rate	2.5%	3.05%	4.5%	Bond Buyer Municipal Market Data AAA General Obligation Yield	<ul style="list-style-type: none"> 5 year High – 4.746% August 30, 2013 52 week High – 3.368% May 3, 2016 52 week Low (Also 5 year low) - 2.078% July 6, 2016

P3 Financing Assumptions	Min	Most Likely	Max	Source	Note
Debt					
LIBOR (overnight)		0.6954%		Wall Street Journal, 1/4/2017	
Swap price		2.35%		Calculation, see note	Average loan life: ~ 60% of construction period + 50% of contract duration corrected for 1 year debt tail = 16 years. Determination interest rate risk premium: <ul style="list-style-type: none"> 10 years IRS: 2.20% (WSJ, 1/4/2016) 30 years IRS: 2.62% (WSJ, 1/4/2016) Proxy for 16 years: 2.32% (trough linear interpolation, upward correction for shape of yield curve)
Margin	250bps	300bps	350bps	Comparable transactions	
Cost of debt	5.5%	6.05%	6.5%		Equivalent recent investment grade project bonds: 6%.
Equity	13%	14%	15%	Comparable transactions	
Leverage	85:15	90:10	91:9	Comparable transactions	
WACC	7.35%	7.0%	8.5%	Calculation, see note	WACC calculation, upward correction of 0.50% to account for reserve accounts and changes in leverage over time

High-Level Risk Analysis

High-level risk analysis methodology

Purpose

- Even at this preliminary stage of project development, many project risks can be identified
- A high-level assessment of project risks and the most efficient allocation of these risks is useful for informing the selection of a project delivery method

Methodology

- Key project risk categories were identified
- Examples of detailed project risks within each risk category were identified
- Preliminary allocation of each risk to the party that is best positioned to manage that risk within the structure of the project delivery method is provided

Overall project risks and allocation per delivery method (1)

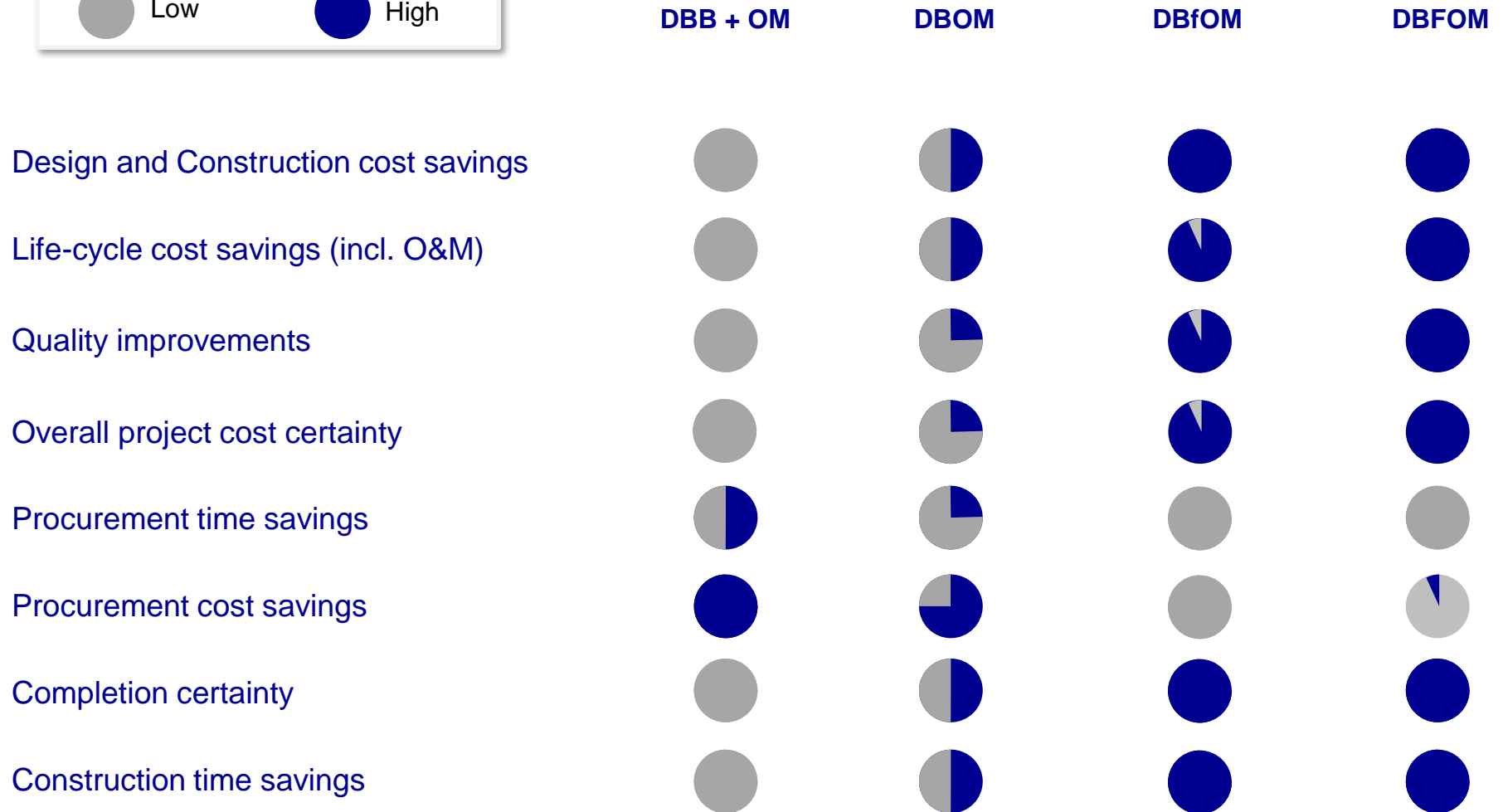
Project risks organized into categories	DBB+OM	DBOM	DBfOM	DBFOM
Approval and funding process				
Political risk of deal termination or long delays	Public	Public	Public	Public
Planning process and approvals for site	Public	Shared	Shared	Shared
Permitting and approvals				
Completion of site development process	Public	Public	Public	Public
Permits and third party approvals	Public	Shared	Shared	Shared
Geotechnical / environmental				
Relocation of utilities	Public	Public	Shared	Shared
Geotechnical and environmental site conditions	Public	Public	Shared	Shared
Procurement				
Delays in procurement process	Public	Public	Public	Public
Design				
Delays in design process	Public	Private	Private	Private
Design errors	Public	Private	Private	Private
Construction risk				
Construction cost overruns	Private	Private	Private	Private
Regular construction risks	Private	Private	Private	Private
Construction delays	Public	Private	Private	Private
Weather related events and force majeure	Public	Shared	Shared	Shared
Changes in labor and material cost	Private	Private	Private	Private

Overall project risks and allocation per delivery method (2)

Project risks organized into categories	DBB+OM	DBOM	DBfOM	DBFOM
Financing				
Interest rate risk after financial close	Public	Public	Private	Private
Refinancing risk	Public	Public	Private	Private
Equipment and commissioning				
Relocation of existing operations of Dorsey	Public	Public	Public	Public
Relocation of operations to new courthouse	Public	Public	Public	Public
Changes in equipment cost or equipment selection	Public	Private	Private	Private
Delay in schedule for equipment installation	Public	Private	Private	Private
Lifecycle maintenance				
General capital maintenance cost overruns	Public	Shared	Private	Private
Scheduled preventative maintenance cost overruns	Public	Private	Private	Private
Emergency maintenance cost overruns	Public	Public	Private	Private
Operational				
Coordination between subcontractors	Public	Private	Private	Private
Long term performance risk	Public	Shared	Private	Private
Changes in requirements / specifications	Public	Public	Public	Public

Assessment of differences between delivery and financing options

Qualitative comparison of delivery models



Qualitative assessment of delivery and financing options (1 of 4)

		DBB + OM	DBOM	DBfOM	DBFOM
Design and Construction cost savings	Value Driver	Limited incentive to innovate during design and construction due to multiple contracts, and lack of a competitive bidding process on all components and phases of the project if elements are insourced by Howard County. Use of input specifications to delineate design and engineering solutions in detail also typically limit innovation.	Integration of multiple contracts and a competitive procurement process, encourages innovation in order to save on costs and time during design and construction.	Integration of multiple contracts, significant risk transfer, a competitive procurement process, and output-based specifications encourage innovation, and minimize interface issues in order to save on costs and time during design and construction.	
	Expected Outcome	Minimal design and construction cost savings	Some design and construction cost savings	High design and construction cost savings	High design and construction cost savings
Life-cycle cost savings (incl. O&M)	Value Driver	Limited incentive to minimize interface issues, or optimize for life-cycle cost savings since the different components and phases of project delivery are held by different parties through different contracts. Input specifications also limit innovation. Almost all interface risks are retained by Howard County.	Some incentive to minimize interface issues as the DB and O&M components of the project are now held by one entity. Use of a competitive procurement also incentivizes innovation. Incentive exists to design and build in a manner to realize O&M savings.	Greater incentive to realize lifecycle cost savings as the DB and O&M components of the project are held by one entity, and the inclusion of financing allows for full use of availability payments and output-based specifications that can both incentivize (through payments) or penalize the P3 partner if the infrastructure is unavailable.	
	Expected Outcome	Limited life-cycle cost savings	Some life-cycle cost savings	High life-cycle cost savings	High life-cycle cost savings

Qualitative assessment of delivery and financing options (2 of 4)

		DBB + OM	DBOM	DBfOM	DBFOM
Quality improvements	Value Driver	Limited incentive to invest in higher quality infrastructure due to the fact that long term risks are retained by Howard County, and contractors are only required and rewarded for meeting input specifications.	Some incentive to invest in higher quality infrastructure due to the integration of multiple contracts, and a competitive procurement process. Since the design is included in the scope, bidders are incentivized to come up with quality enhancing solutions.	Integration of multiple contracts, a competitive procurement process, and payments that are related to performance through output-based specifications encourages investment in enhanced infrastructure quality in order to ensure profitability of the project in the later stages (O&M). Since the design is included in the scope, bidders are incentivized to come up with quality enhancing solutions.	
	Expected Outcome	Minimal enhanced infrastructure quality	Some enhanced infrastructure quality	Higher enhanced infrastructure quality	Greatest enhanced infrastructure quality
Overall project cost certainty	Value Driver	Certainty on overall project cost (includes all phases of the project) is low due to the fact that Howard County will hold most of the risk for any schedule overruns or cost increases due to the use of multiple contracts with multiple vendors.	Some increased certainty on overall project cost as more project phases / activities are grouped into fewer contracts. This allows for competition over fixed-price contracts. Private partners will be incentivized to innovate in order to deliver project elements at a specific cost.	Increased certainty on overall project cost as even more project phases are grouped into a single contract. Competitive pressure to win a fixed-price contract, and also to deliver the financial outcomes that private financiers are expecting will incentivize innovation	
	Expected Outcome	Limited overall project cost certainty	Some overall project cost certainty	Higher overall project cost certainty	Greatest overall project cost certainty

Qualitative assessment of delivery and financing options (3 of 4)

		DBB + OM	DBOM	DBfOM	DBFOM
Procurement time savings	Value Driver	Procurement duration can be short due to high familiarity with an existing process. However, the sequential process of first designing and then procuring construction is likely to add to the duration. The duration may be even longer if a new A&E contract is needed for additional design—resulting in multiple procurements.	Procurement duration will be longer than conventional construction procurement due to the need to use alternative processes that are more complex than under conventional procurement. The preparation of the procurement will take longer because alternative procurement documents – including the DBOM contract – will need to be prepared.	Procurement duration will be longer than conventional construction procurement due to the need to use alternative processes that are more complex than under conventional procurement, including determining output-based specifications, and carefully drafting P3 contract documents. Additional time will be needed to reach commercial and financial close due to the inclusion of financing into the project.	
	Expected Outcome	Limited procurement duration, long preparation duration.	Medium preparation and procurement duration	Long preparation and procurement duration	Long preparation and procurement duration
Procurement cost savings	Value Driver	Procurement costs are lower due to the use of an existing process, and no need for additional external advisors, etc.	Increased procurement costs relative to DBB+OM due to use of a different process, need to engage external advisors, conduct a market sounding, and draft appropriate DBOM contract documents.	Very high procurement costs related to both having to issue a bond (for example, any additional fees for bond counsel, etc.) and retaining external advisors, etc. to assist with procurement for a P3 process.	High procurement costs relative to DBOM due to the additional need to draft a DBFOM contract that includes appropriate financial incentives that are related to performance, and structure a project and competition that captures the most efficient project risk allocation.
	Expected Outcome	Limited procurement costs	Increased procurement costs	Very high procurement costs	High procurement costs

Qualitative assessment of delivery and financing options (4 of 4)

		DBB + OM	DBOM	DBfOM	DBFOM
Completion certainty	Value Driver	Risk of schedule delays and interface issues between phases of the project (for example, between design and build) are held by Howard County due to the use of multiple contracts with different vendors.	Some completion certainty as an integrated contract with properly arranged financial payments can incentivize DBOM partner to resolve integration issues, and innovate to arrive at project completion.	High completion certainty as integrated contract with appropriate risk allocation, properly arranged financial payments, and financial “skin in the game” incentivizes P3 partner to resolve integration issues, and innovate to arrive at project completion.	
	Expected Outcome	Very limited completion certainty	Medium completion certainty	High completion certainty	High completion certainty
Construction time savings	Value Driver	The construction contractor is typically not incentivized towards early or on-time completion. Use of input specifications incentivize contractors to use the change order process in order to maximize payments—which can lead to construction delays.	Increased possibility of construction time savings as a competitively procured, integrated contract with properly arranged financial payment structures can incentivize the P3 partner to innovate to deliver the project ahead of schedule.	Greater possibility of construction time savings as an integrated contract with appropriate risk allocation, properly arranged financial payments, and financial “skin in the game” incentivizes P3 partner to resolve issues and innovate in order to deliver the project ahead of schedule.	
	Expected Outcome	Very limited construction time savings	Medium construction time savings	High construction time savings	High construction time savings

Quantitative analysis of delivery and financing options (1 of 3)

	DBB + OM			DBOM			DBfOM			DBFOM		
	Min	Most Likely	Max	Min	Most Likely	Max	Min	Most Likely	Max	Min	Most Likely	Max
Lifecycle cost savings (includes Design & construction cost savings)	0%	0%	0%	5%	8%	10%	10%	12%	15%	10%	12%	15%
	<p>Sources:</p> <ul style="list-style-type: none"> • IMG Rebel analysis • https://ppp-certification.com/ppp-certification-guide/52-efficiency-and-effectiveness-ppp-potential-source-higher-efficiency • http://www.pwfinance.net/document/research_reports/12%20pan%20canadian.pdf <p>Note: Cost efficiencies occur due to multiple value drivers that are hard to quantify due to the lack of direct comparisons at financial close. Therefore, for the purpose of this analysis the Team focused on lifecycle costs rather than construction costs or O&M costs as that is the ultimate bottom line. Various P3 case studies show construction costs similar to conventional but significant savings in O&M. At this point in the analysis, the optimal mix of DB and O&M costs is unclear, therefore efficiencies can either be assessed in ex ante value for money assessment (pre-procurement or after selection of preferred bids) or assessing cost overruns under various delivery models.</p>											

Quantitative analysis of delivery and financing options (2 of 3)

Limited Procurement Costs

	DBB + OM			DBOM			DBfOM			DBFOM		
	Min	Most Likely	Max	Min	Most Likely	Max	Min	Most Likely	Max	Min	Most Likely	Max
Additional bid costs for successful bidder	N/A	N/A	N/A	\$0.25M	\$0.5M	\$1M	\$1M	\$1.5M	\$3M	\$1M	\$1.5M	\$3M
	Sources: <ul style="list-style-type: none"> • IMG Rebel analysis • http://www.pppcouncil.ca/web/pdf/canada_p3_white_paper_swg.pdf 											
	Note: Additional costs associated with submitting a winning bid under a competitive P3 procurement vary based on project complexity, procurement duration, and the predictability of the procurement process. It is typical for bidders to engage external legal counsel, financial advisor. The financing and due diligence process for successful bidders is lengthy and P3 bidders typically engage external advisors to help them through this process.											

	Min	Most Likely	Max	Min	Most Likely	Max	Min	Most Likely	Max	Min	Most Likely	Max
Stipends for unsuccessful bidders	N/A	N/A	N/A	\$0.75M	\$1.5M	\$3M	\$1.5M	\$3M	\$4.5M	\$1.5M	\$3M	\$4.5M
	Sources: <ul style="list-style-type: none"> • IMG Rebel analysis • https://www.transportation.gov/sites/dot.gov/files/docs/P3_Successful_Practices_Final_BAH.PDF • http://advanceindiana.blogspot.com/2014/12/indianapolis-taxpayers-paying-15.html 											
	Note: Providing stipends to unsuccessful bidders are considered a best practice and common for competitive P3 procurements. Stipends demonstrate the commitment of the agency and enhances market appetite and competition. Stipends range from several hundreds of thousands up to \$3M per unsuccessful bidder. Howard County can determine if it wants to use a stipend – and if so at what level – in the development of its procurement strategy. Note that the total shown above is the total cost for Howard County to pay multiple unsuccessful bidders.											

Quantitative analysis of delivery and financing options (3 of 3)

Limited Procurement Costs

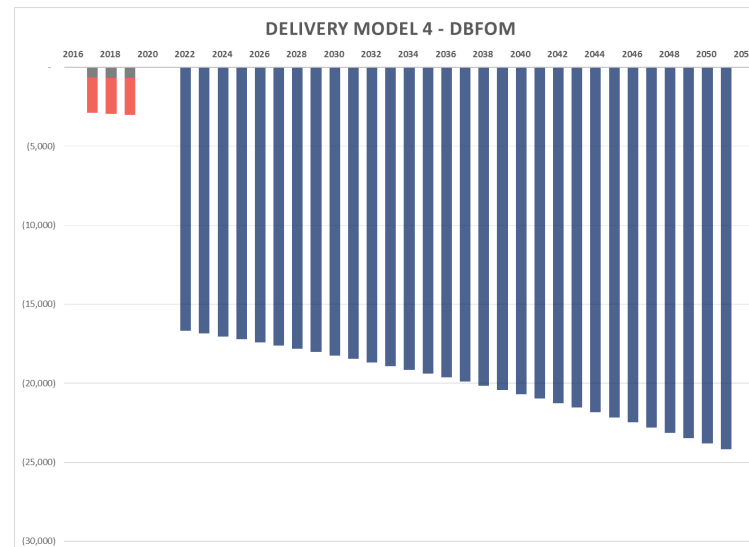
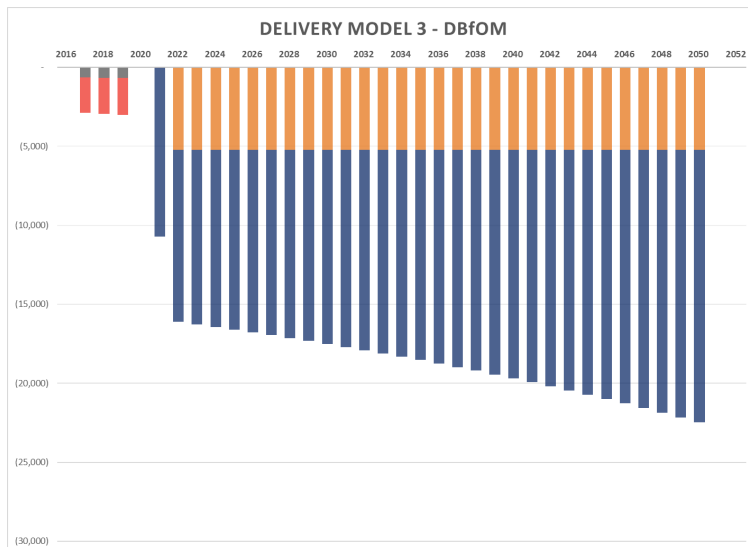
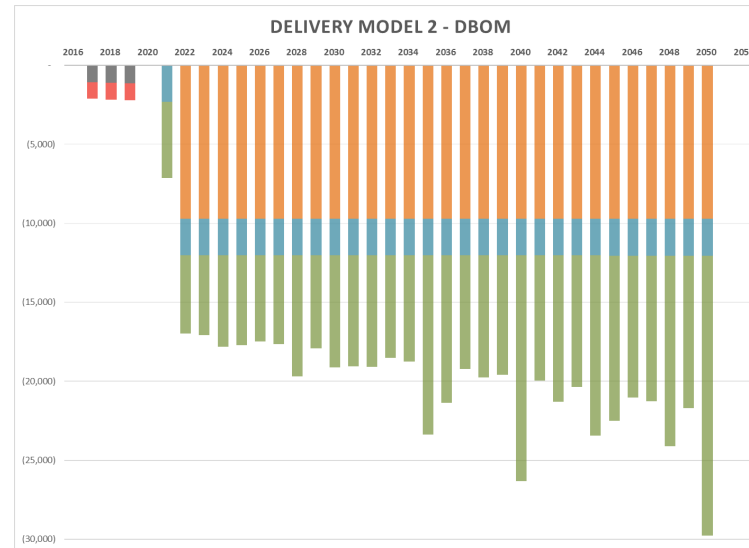
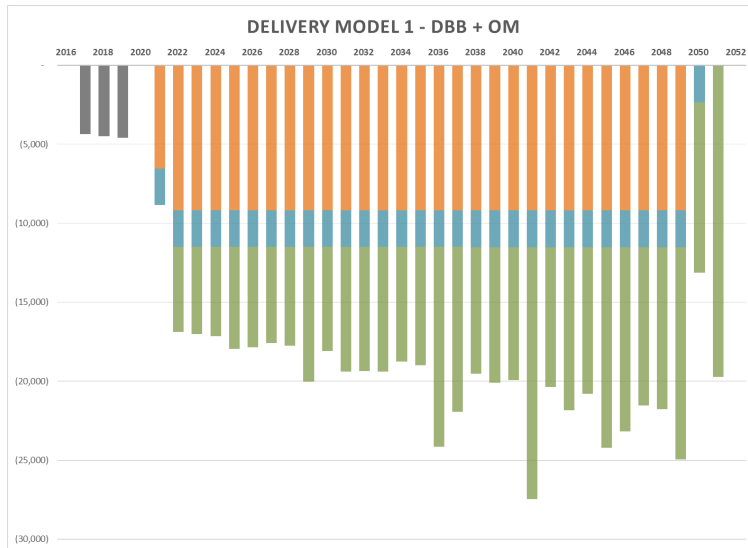
	DBB + OM			DBOM			DBfOM			DBFOM		
	Min	Most Likely	Max	Min	Most Likely	Max	Min	Most Likely	Max	Min	Most Likely	Max
Additional preparation costs for Howard County	N/A	N/A	N/A	\$-2M	\$1M	\$3M	\$-1M	\$2M	\$4M	\$-1M	\$2M	\$4M
	Sources: • IMG Rebel analysis											
	Note: Additional preparation costs are difficult to specify prior to procurement, some costs would be typical of social infrastructure procurements, such as technical advisors for architecture and engineering. Conventional delivery requires multiple procurements for design, construction and multiple short-duration O&M contracts—this could lead to a situation where a P3 procurement can be less costly than all of the combined procurement processes needed during the entire lifecycle of a project that is delivered conventionally. On the other hand, the additional costs associated with P3 procurements are due to the complexity of executing competitive P3 procurements and drafting P3 contracts. Many agencies hire external legal counsel and financial advisors to support them through a P3 procurement. The costs of external advisors are dependent on 1) duration and complexity of procurement and 2) P3 experience of the agency.											

	Min	Most Likely	Max	Min	Most Likely	Max	Min	Most Likely	Max	Min	Most Likely	Max
GO Bond issuance costs for Howard County	N/A	1%	N/A	N/A	1%	N/A	N/A	1%	N/A	N/A	N/A	N/A
	Sources: • Howard County Finance Department											
	Note: For delivery models 1 – 3, a 30 –year GO bond will be issued in order to provide public financing for the project.											

Preliminary Results and Conclusions

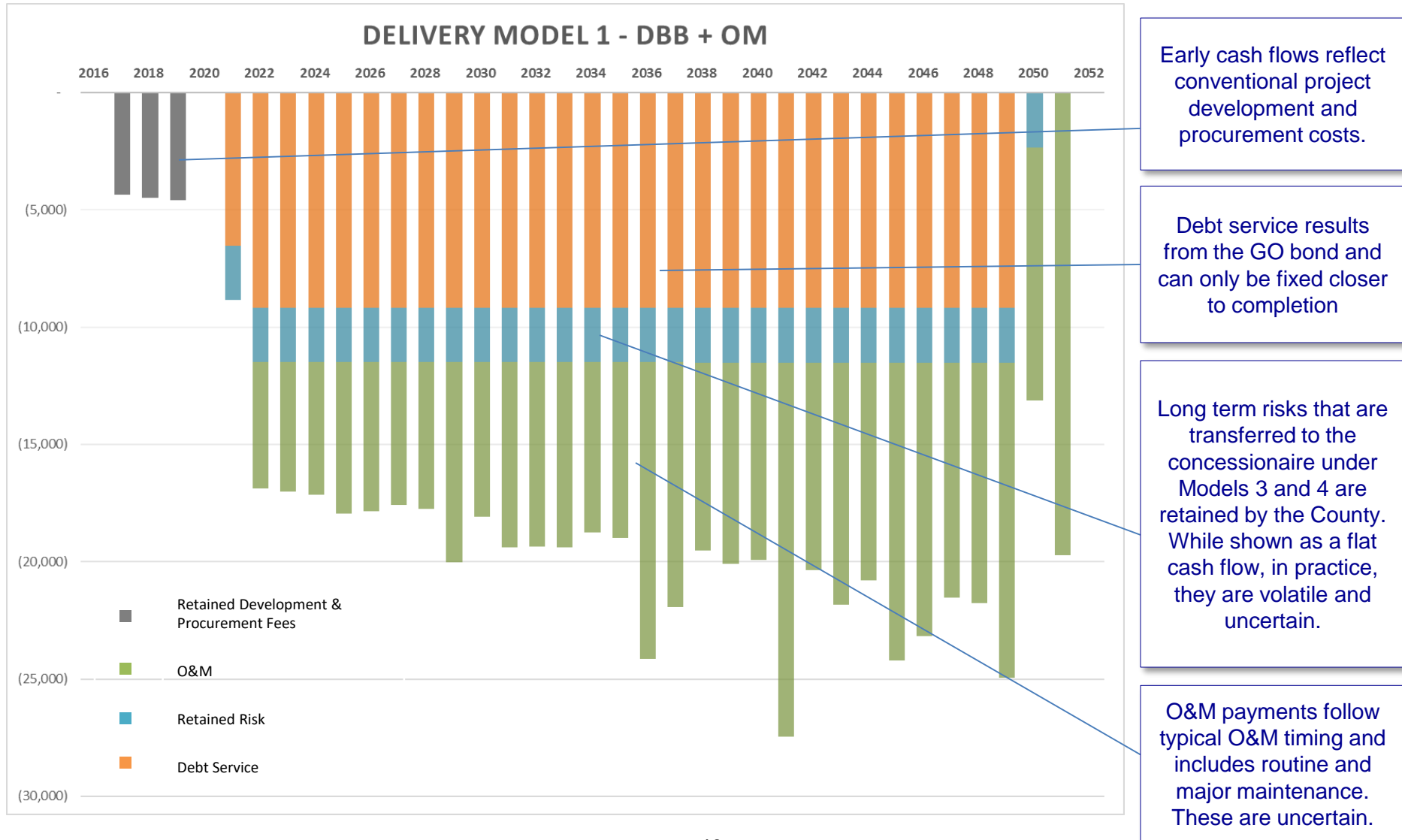
Preliminary Results and Conclusions

Cash flows for Howard County vary under different delivery models

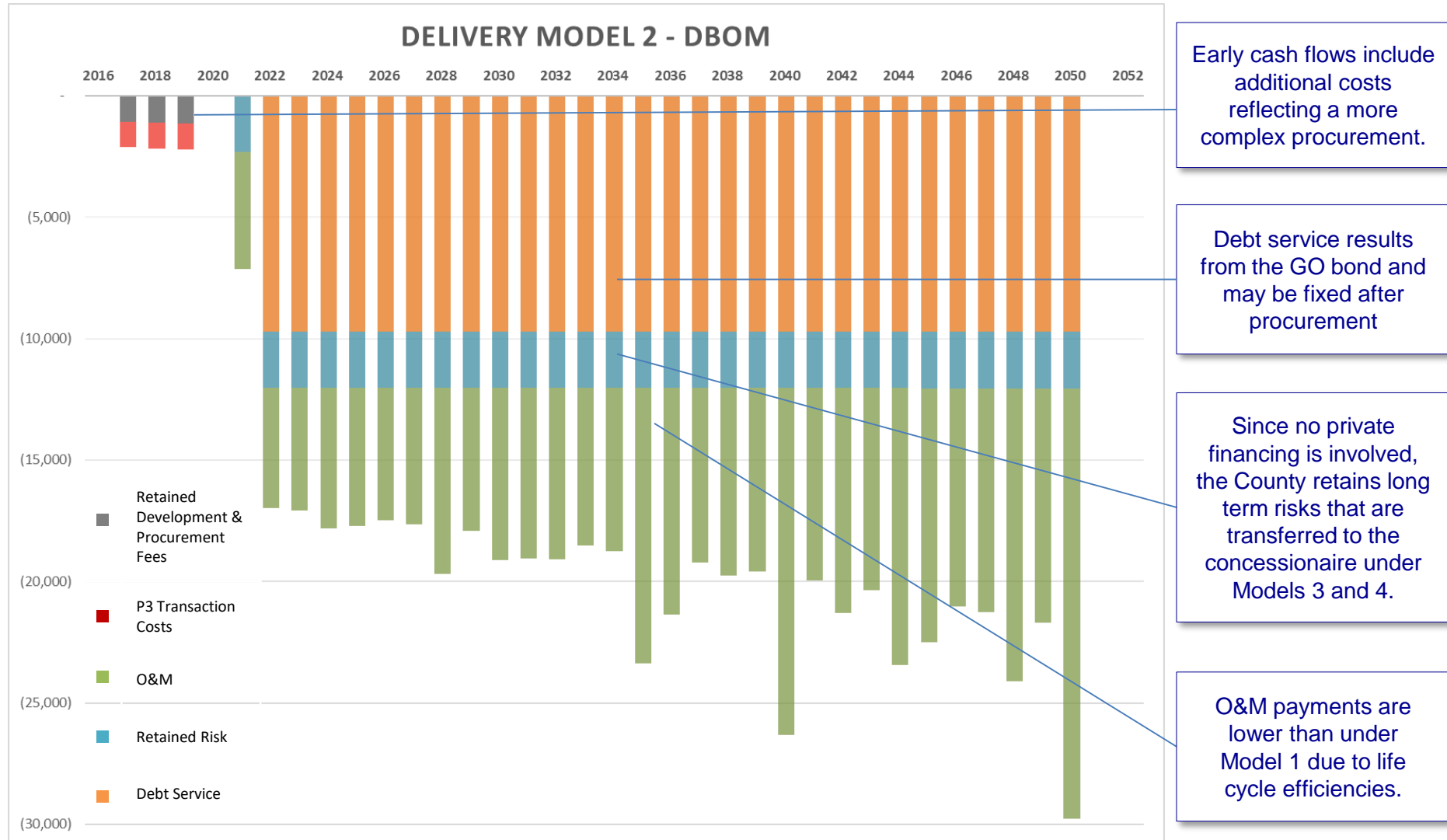


- Retained Development & Procurement Fees
- P3 Transaction Costs
- O&M
- Retained Risk
- Debt Service
- Availability Payment

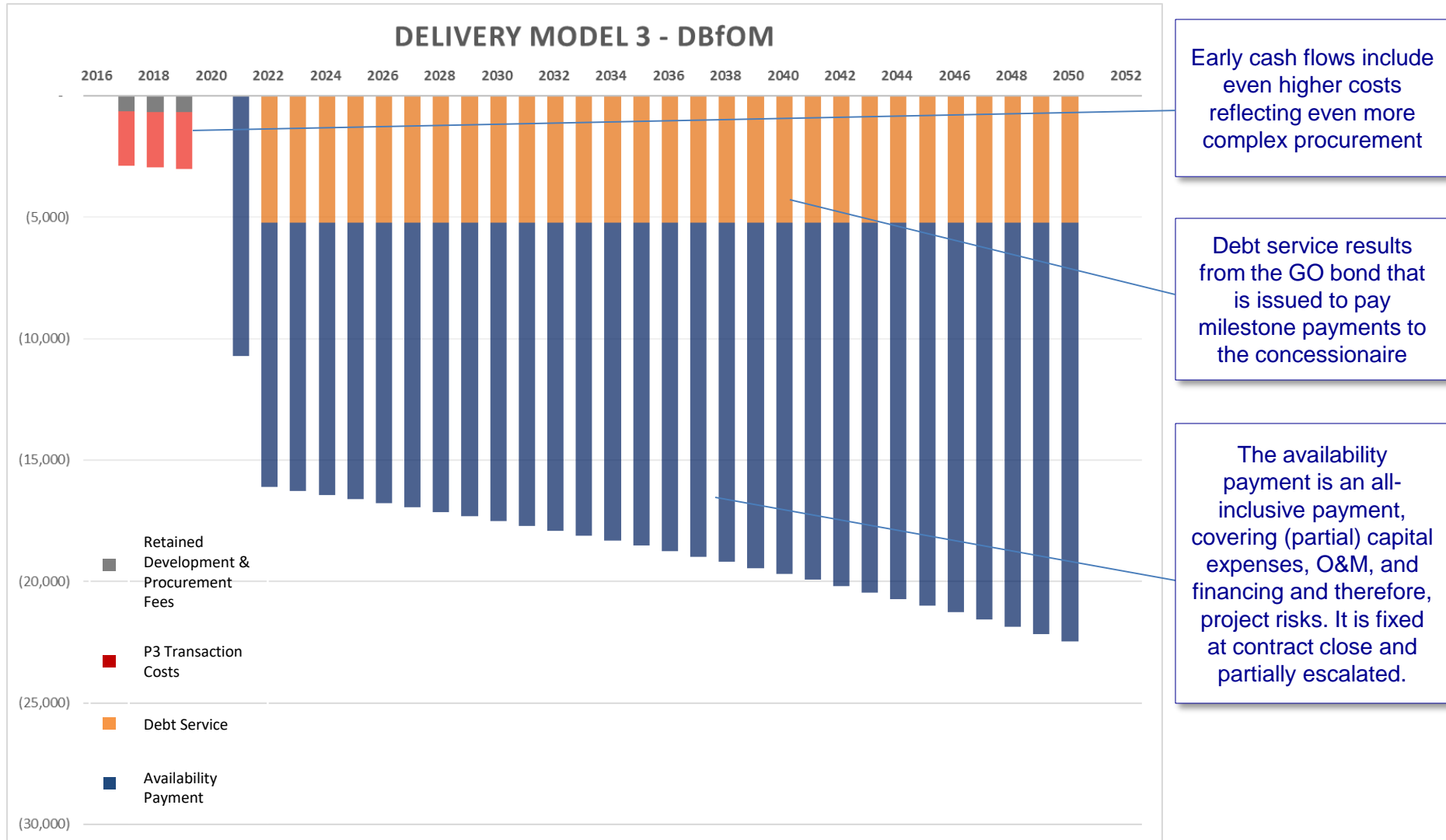
Delivery Model 1 results in a combination of debt service and O&M obligations, with project development costs and retained risks



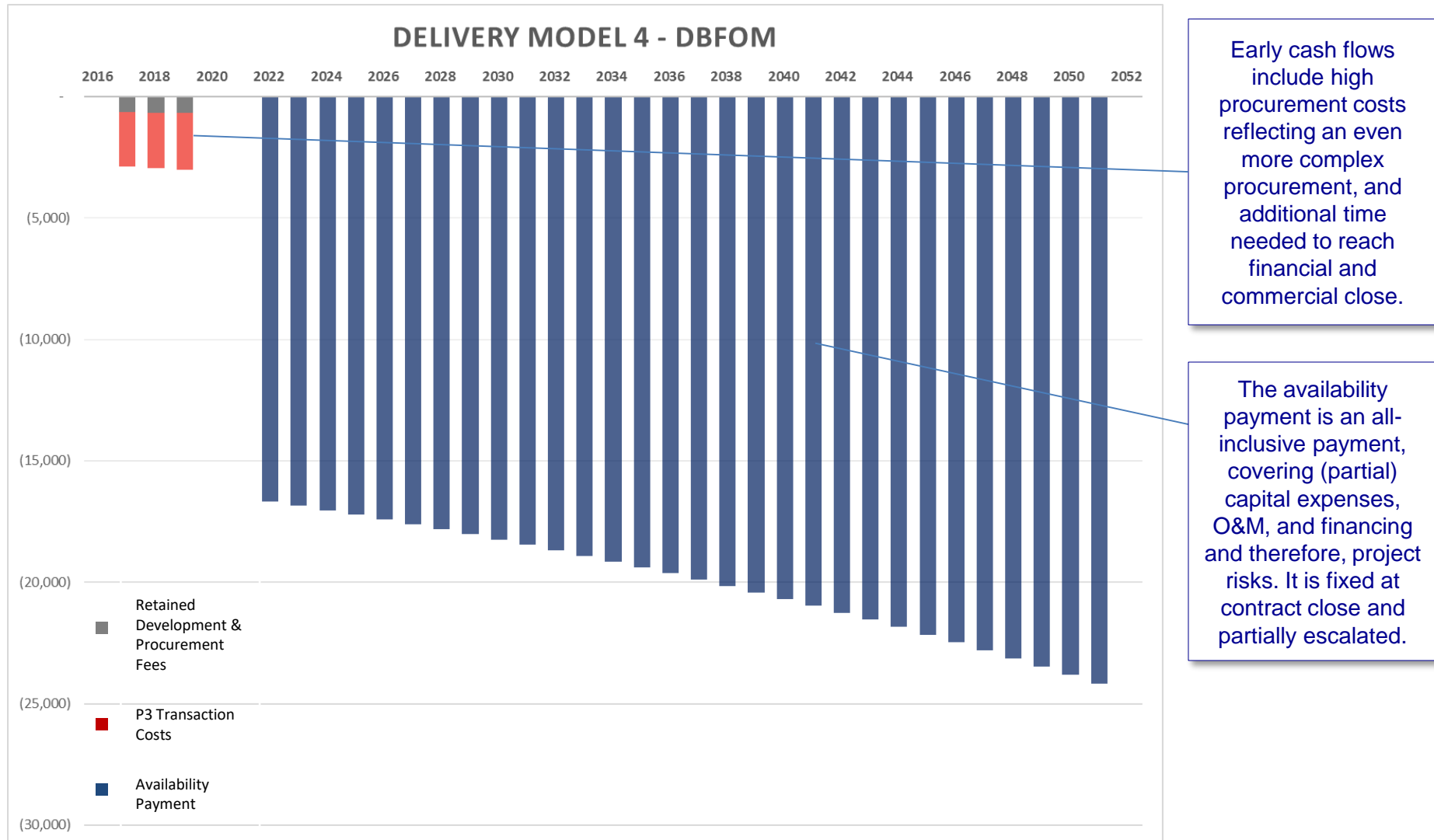
Delivery Model 2 has a similar structure, but assumes life cycle cost savings and higher procurement costs



Delivery Model 3 combines an availability payment with GO bond debt service and has higher procurement costs



Delivery Model 4 combines an availability payment with some public preparation costs



Simple cash flows do not tell the full story (1)

Life cycle cost savings

- Integration of phases, risk transfer, output-based specifications and financial incentives can lead to life cycle cost savings
- Our analysis shows that Delivery Model 2 is likely to generate life cycle cost savings and Models 3 and 4 have the potential to generate even more

Procurement costs

- Delivery Models 2, 3 and 4 are more complicated than conventional delivery and will generate higher procurement costs
- If Howard County pursues P3 delivery for other projects, this may justify the “investment” in setting up precedents for P3 delivery—which can lower procurement cost for subsequent projects

Simple cash flows do not tell the full story (2)

Private financing

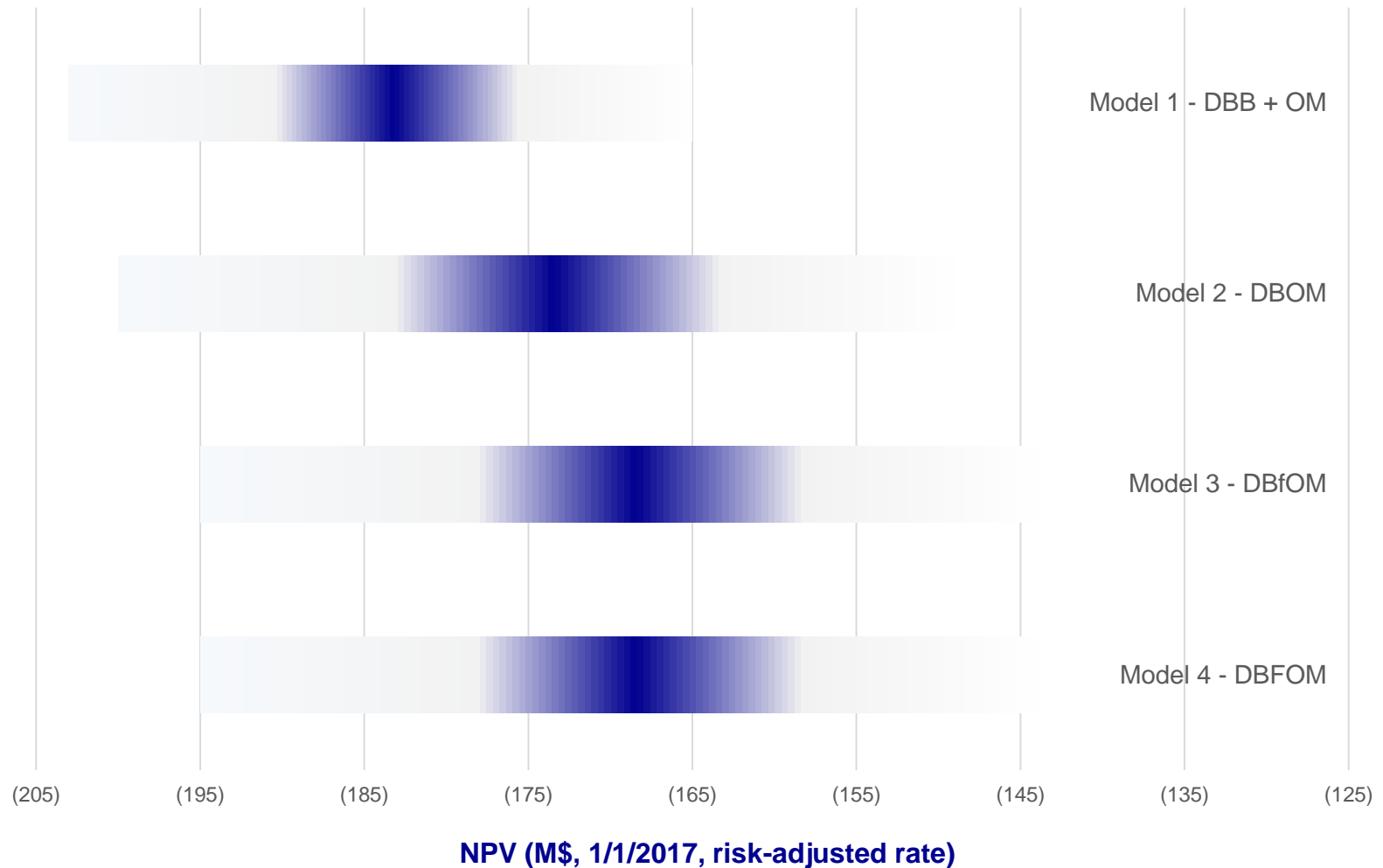
- Cost of private financing appears to make Delivery Models 3 and 4 more expensive than delivery models 1 and 2
- The use of private financing in Delivery Models 3 and 4 provides incentives for the private partner to achieve cost savings, improve quality, and effectively transfer risks

Risk transfer

- Our high-level risk identification and allocation analysis shows that the County will retain significant risks under Delivery Models 1 and 2
- These risks are typically not explicitly reflected in budgets, but they are relevant to the County's considerations

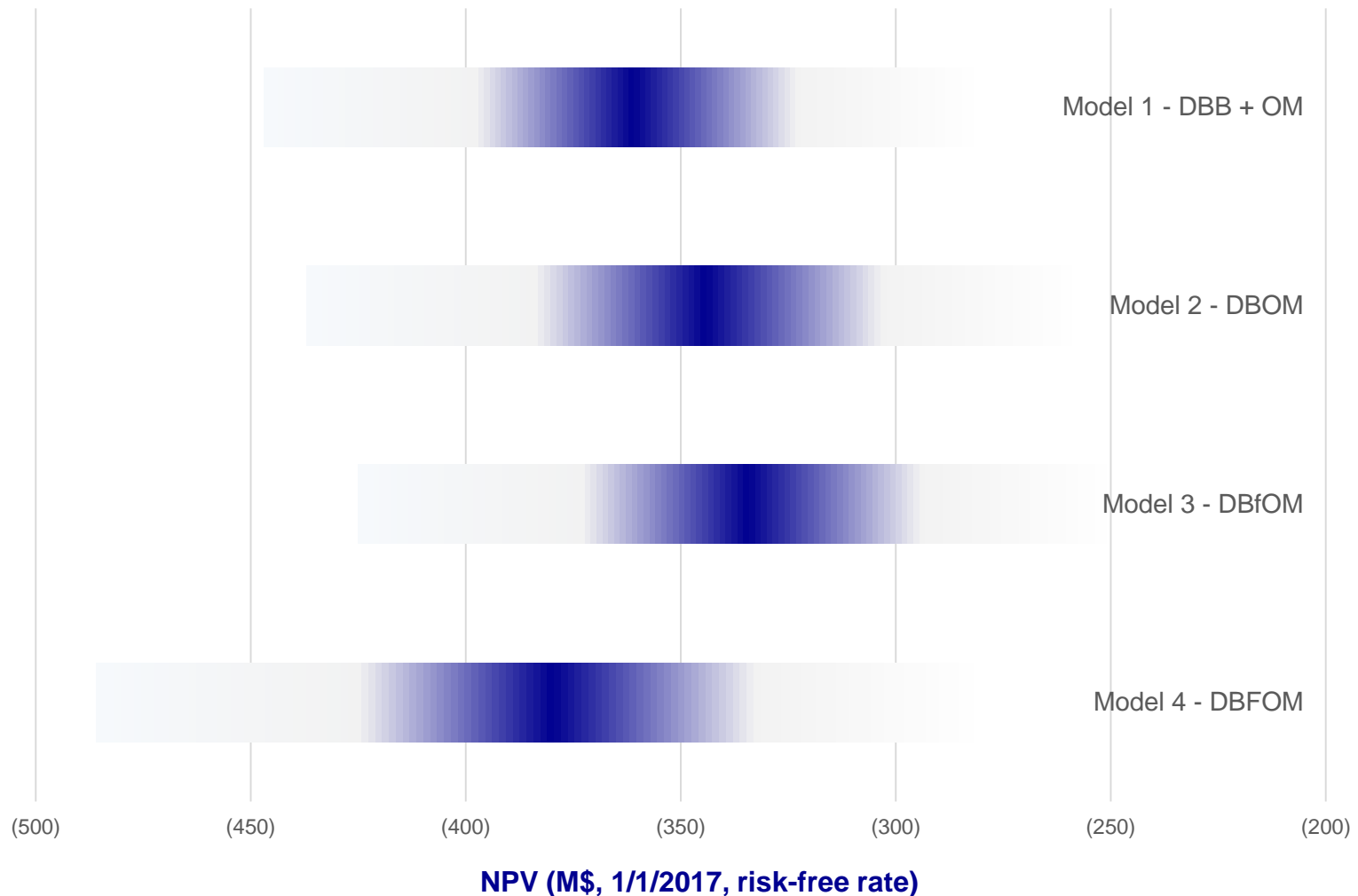
Under one generally accepted “apples-to-apples” value for money comparison method, Delivery Models 3 and 4 are preferable

Method 1: Risk valuation reflected in the discount rate, not in cash flows

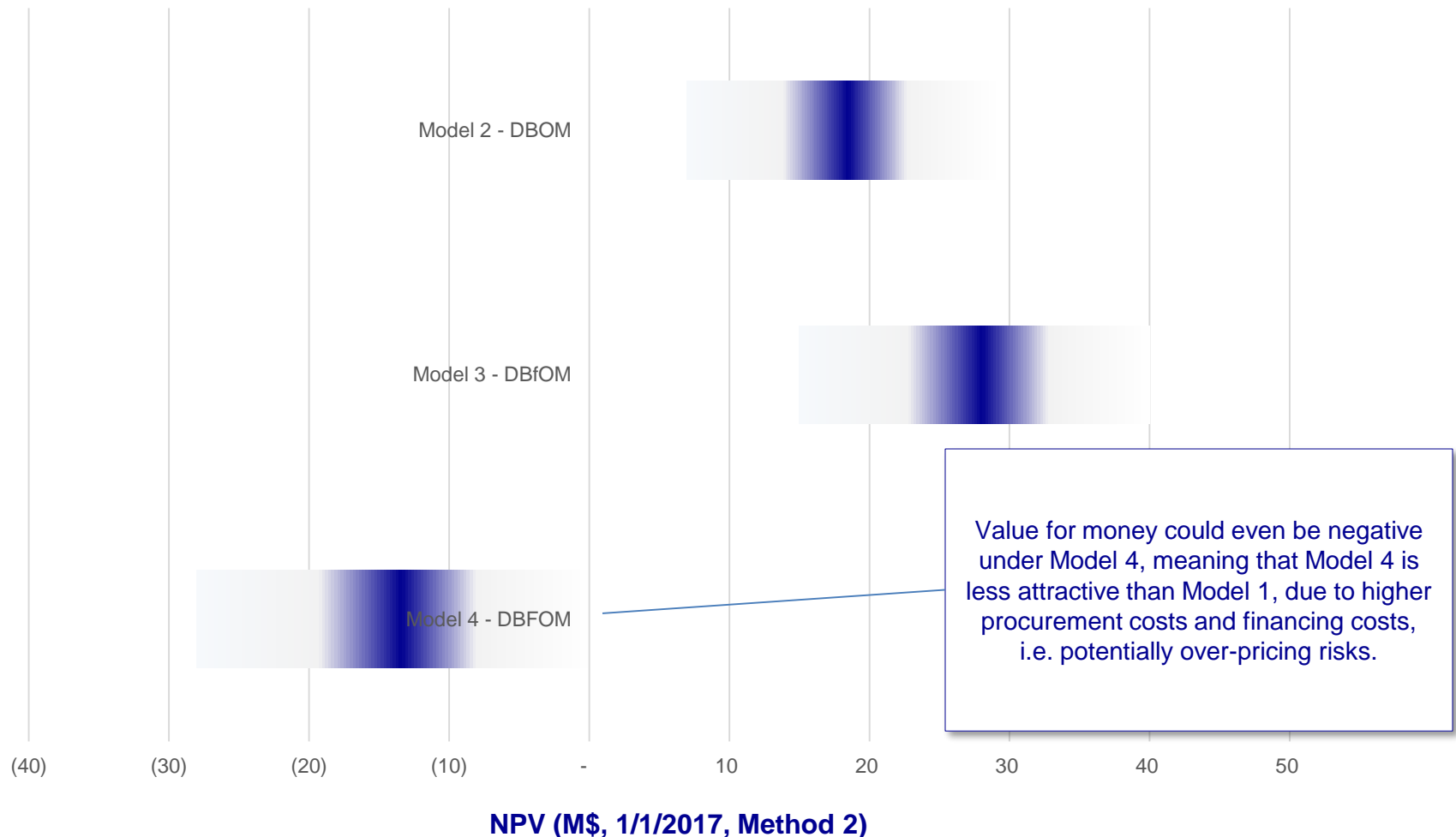


Under the other generally accepted value for money assessment method, Delivery Model 3 is preferable

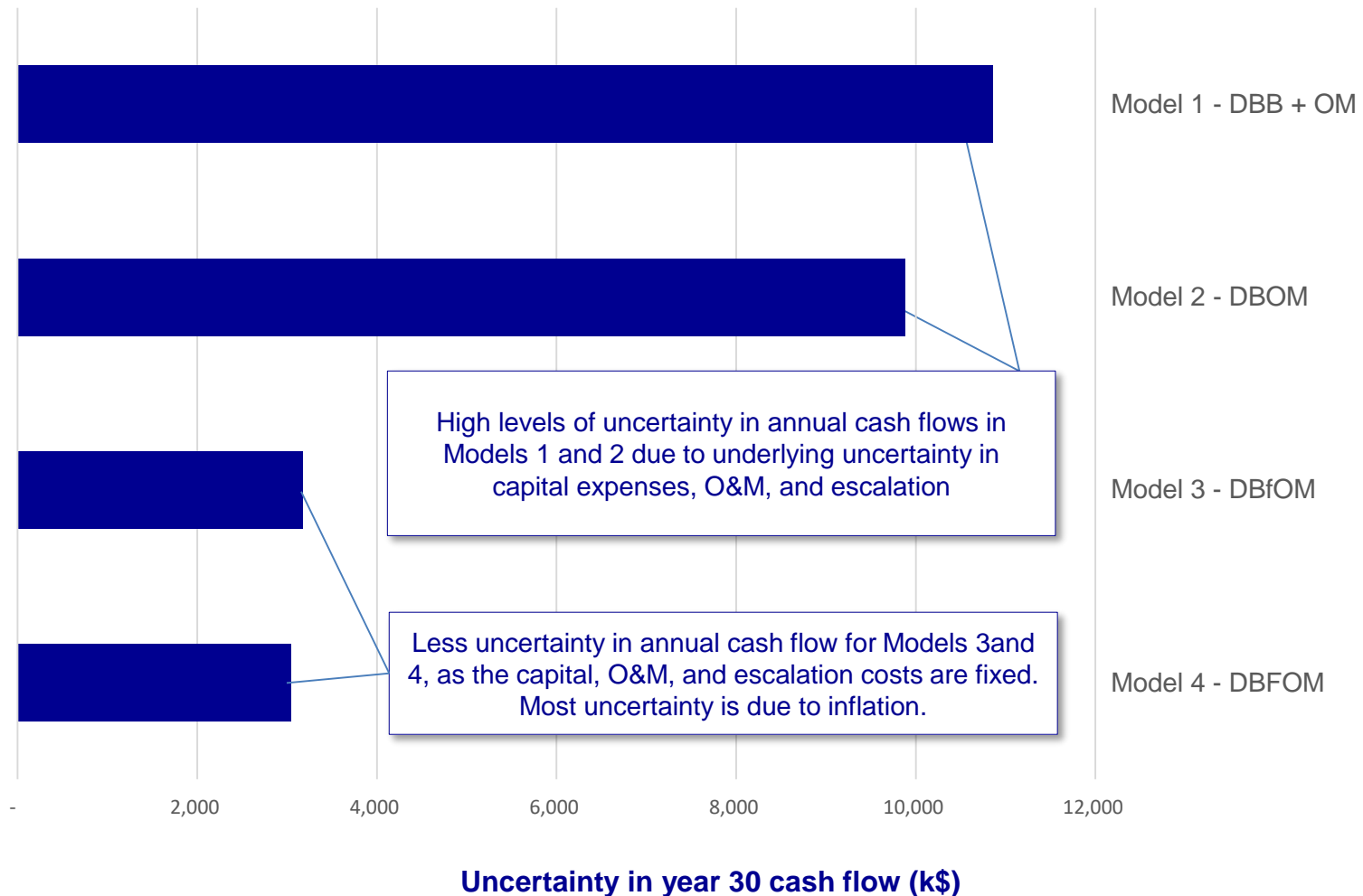
Method 2: Risk valuation reflected in cash flows, not in discount rate



The exact value for money for each delivery model compared against conventional delivery is uncertain, but is likely to be highest under Delivery Model 3



After entering into a contract, Delivery Models 3 and 4 provide the most cost certainty



Delivery Models 2, 3 and 4 offer earlier completion than conventional delivery, while Models 3 and 4 provide date certainty

Delivery Model	Expected completion date	Min	Max
Model 1	12/19/2021	11/19/2021	7/19/2022
Model 2	2/28/2021	12/31/2020	1/31/2022
Model 3 & 4	7/31/2021	1/31/2021	1/31/2022

Note: As the exact process for how to integrate the SDP and EA processes into the alternative processes (Models 2 – 4) has not yet been finalized, the current schedules shown assume that the SDP process will be initiated as soon as possible, concurrent with design activities undertaken by the bidders / concessionaire.

Operating Budget Impact Analysis

Operating Budget Impact Summary (\$ in Millions)		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	30-yr
Status Quo	O&M	0.8	0.8	0.9	0.9	1.9	1.0	1.1	1.2	1.3	2.4	
Model 1	Conventional	-	-	-	-	6.4	14.4	14.5	14.7	15.5	15.4	443.6
Model 2	Hybrid P3 - 1	-	-	-	-	4.8	14.5	14.6	15.3	15.2	15.0	437.3
Model 3	Hybrid P3 - 2	-	-	-	-	10.7	16.0	16.2	16.3	16.5	16.7	469.5
Model 4	P3	-	-	-	-	-	16.7	16.9	17.0	17.2	17.4	482.6
Note: This analysis was built upon cash flow models, but only focuses on operating budget impact and also excluded quantified retained risks in Model 1 and Model 2.												

- Full year impact is projected at \$14.4~\$16.7M per year around 2022, representing 1.1~1.3% of projected total General Fund budget.
- In most models, the impact was phased in over two years.
- After 2022, the impact is built into the base budget and only experiences minor growth each year on average.

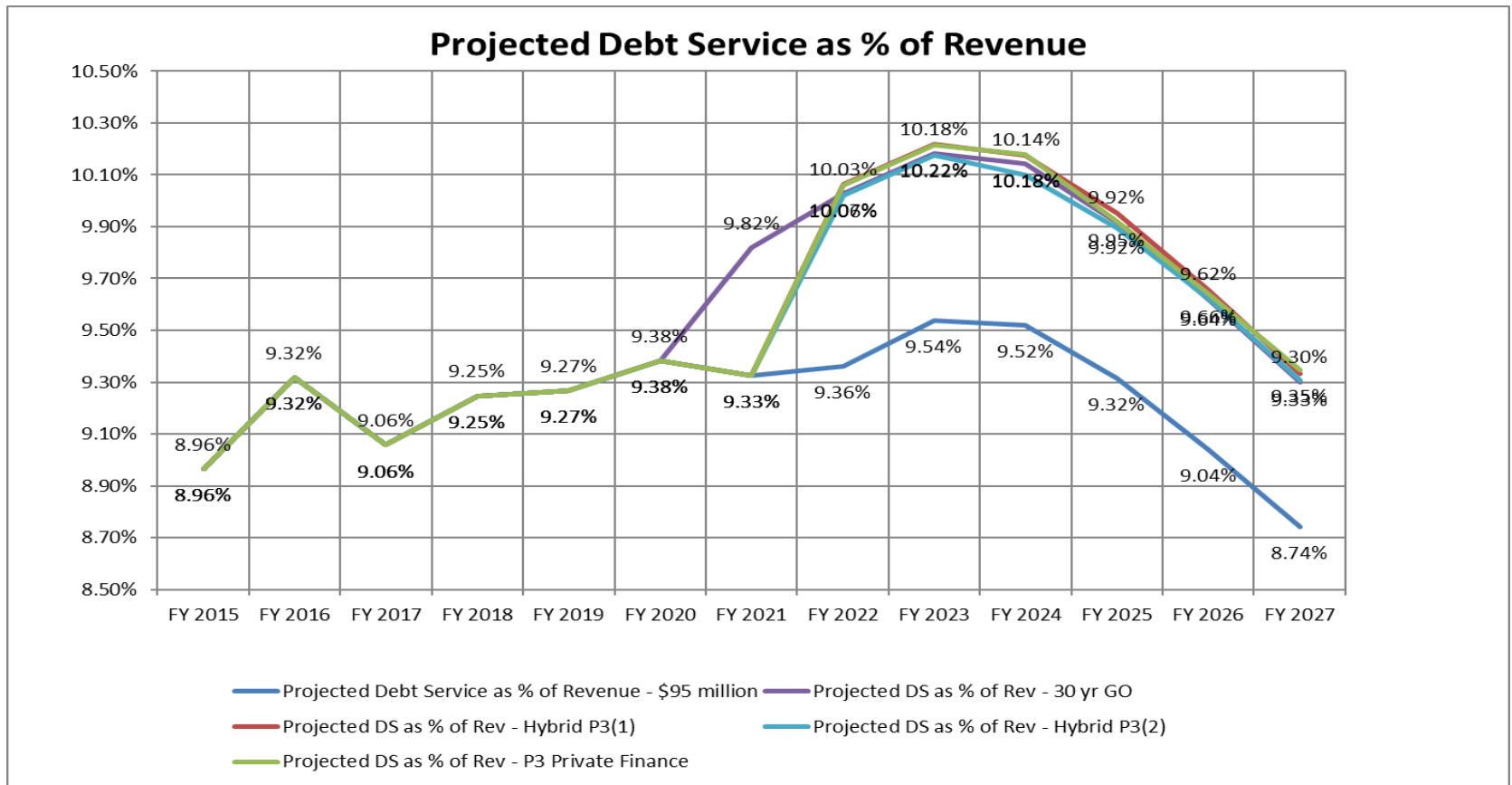
Key Debt Indicators Analysis

Of the four key debt measures currently tracked by the Spending Affordability Advisory Committee, three are expected to remain below the targets under all four delivery models.

Debt as % of Assessable Base Charter Limit - 4.8% of assessable property tax base	As of 06/30/2016 2.15%	Projections based on four models Not projected to exceed 2.27% in any of the delivery models
Outstanding Debt per capita No longer a metric calculated by credit rating agencies	\$3,061	Projected to peak at \$3,632 in Delivery Model 2 - Hybrid P3(1) in FY 2022
Per capita debt as % of per capita income Less than 10% was consistent with AAA rating	4.18%	Projected to peak at 4.28% in Delivery Model 1 - GO Bonds in FY 2021
Debt service as a % of current revenues Goal to maintain debt service at less than 10% of current revenue	9.32%	Projected to spike in FY 2023 at 10.22% for Delivery Models 2 & 4 and 10.18% for Delivery Models 1 & 3 (Future revenue growth is projected at 3.5%) before coming back to under 10% soon after

Key Debt Indicators Analysis (continued)

Debt Service as a % of Revenues in all four models are projected to reach 10.2% in FY 2023 and come back to under 10% in FY 2025 and beyond.

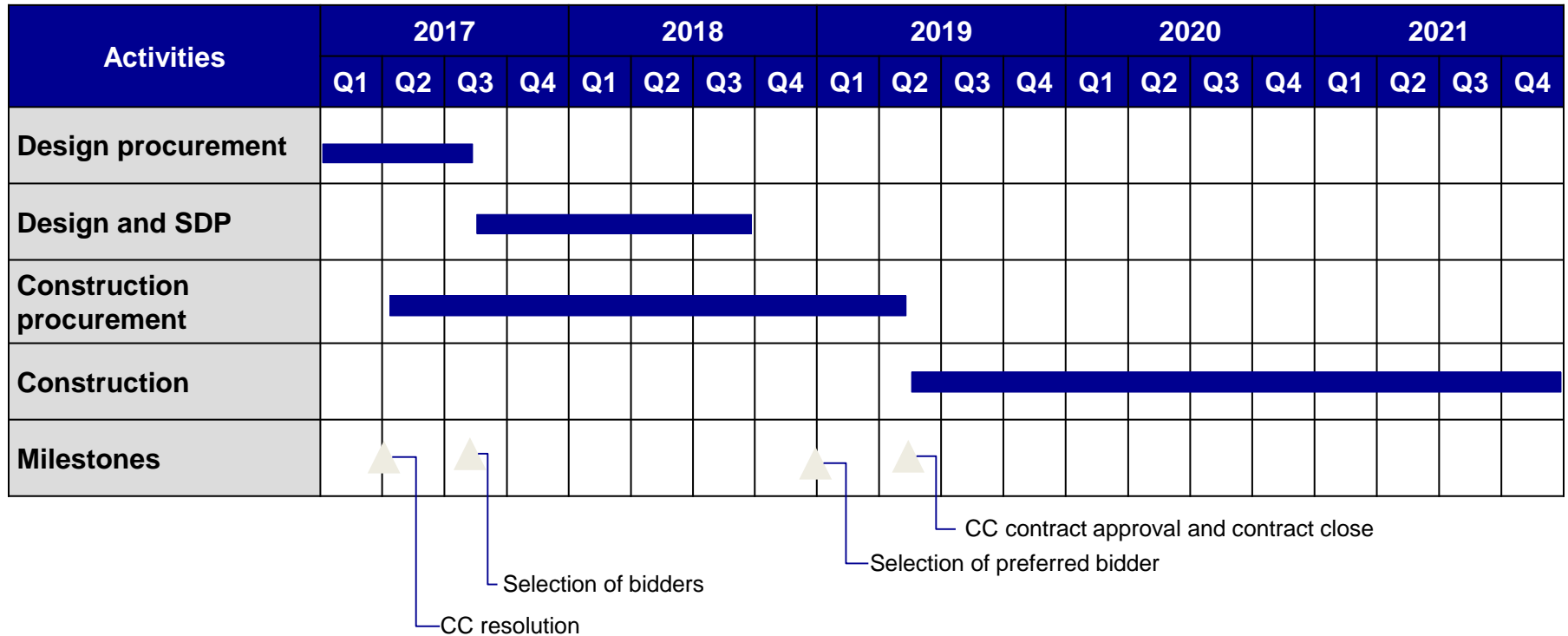


Projected Impact on Howard County's AAA credit rating

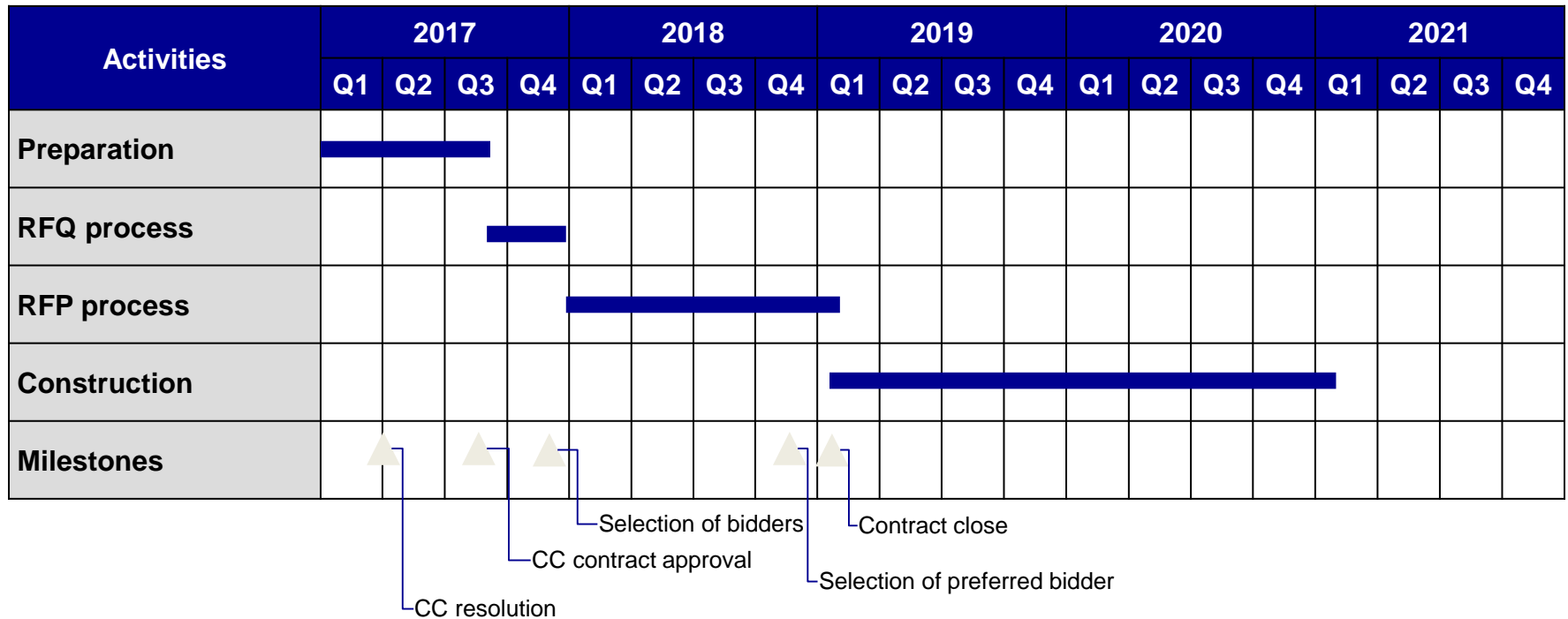
- Each of the three major credit rating agencies (Fitch, Moody's and Standard and Poor's) use different criteria in determining the County's credit rating, which is currently AAA.
- The County's unassigned fund balance, cash balance, economy, fiscal management and budget stability are all factors considered by the credit rating agencies.
- The outstanding general obligation debt of the County is considered in conjunction with lease, pension and OPEB liabilities. All long-term obligations of the County are considered during the rating process.
- All four proposed delivery models were analyzed in relation to credit rating criteria. Should pension funding levels and fund balances remain relatively stable, the additional obligations to construct the Courthouse are not projected to trigger a credit rating change.

Appendix I: Detailed schedules per delivery option

Base case schedule for Model 1: DBB+OM

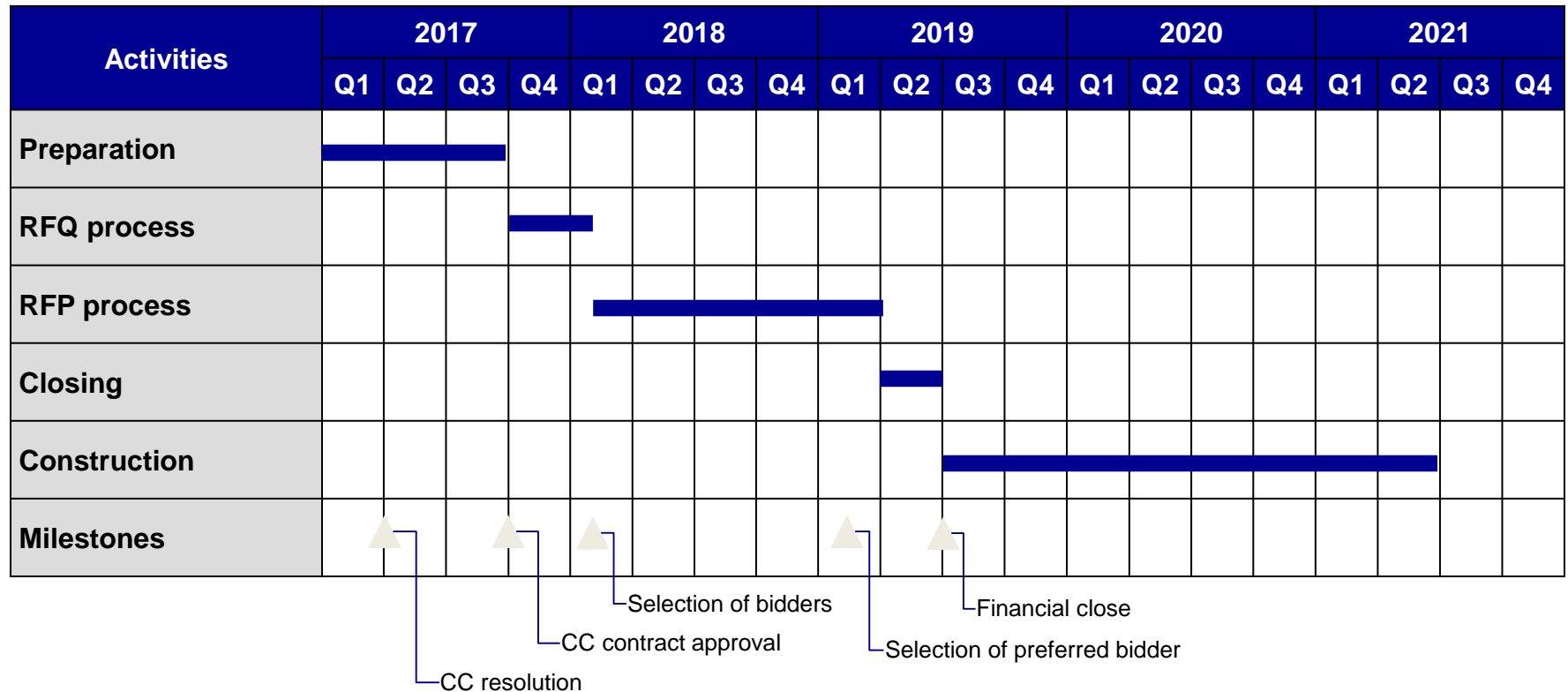


Base case schedule for Model 2: DBOM



Note: As the exact process for how to integrate the SDP and EA processes into the procurement and construction process has not yet been finalized, the current schedules shown assume that the SDP process will be initiated as soon as possible, concurrent with design activities undertaken by the bidders / concessionaire.

Base case schedule for Models 3 & 4: DBfOM / DBFOM



Note: As the exact process for how to integrate the SDP and EA processes into the procurement and construction process has not yet been finalized, the current schedules shown assume that the SDP process will be initiated as soon as possible, concurrent with design activities undertaken by the bidders / concessionaire.

Appendix II: Risk analysis details

Risk categorization

Category	Example	Description
Pure Risks	<ul style="list-style-type: none">• Accident at construction site	<ul style="list-style-type: none">• Potential project-related events with a chance of occurrence and a negative impact (a loss, catastrophe, or other undesirable outcome), leading to an expected valuation
Regular uncertainties	<ul style="list-style-type: none">• Uncertainty in volume of concrete	<ul style="list-style-type: none">• Uncertainties in cost, revenue, and risk estimates, not related to market circumstances but instead to intrinsic lack of certainty
SPV risks	<ul style="list-style-type: none">• Inflation risk	<ul style="list-style-type: none">• Risks related to the long term nature of the project, including uncertainties in cost, revenue, and risk estimates related to market circumstances, coordination risks and long term performance risks

Risk valuation

Category	Valuation method
Pure Risks	<ul style="list-style-type: none">• Bottom up: Valuation of individual risks through probability x damage (or estimation of risk mitigation measures or insurance pricing)• Top down: Valuation of risk profile in contingency
Regular uncertainties	<ul style="list-style-type: none">• Valuation of uncertainty by determining acceptable confidence level
SPV risks	<ul style="list-style-type: none">• Use Weighted Average Cost of Capital as proxy for SPV risks• Use WACC as discount rate in both P3 delivery and conventional delivery; or• Determine risk premium through use of difference between risk free financing costs and WACC

Appendix III: Discount rate and NPV Calculation

Two different discount rates

- There are two potential discount rates in a VfM assessment, one is not reflecting the risk profile of the cash flows which it is used to discount and the other is reflecting that risk profile.

Project-risk free discount rate

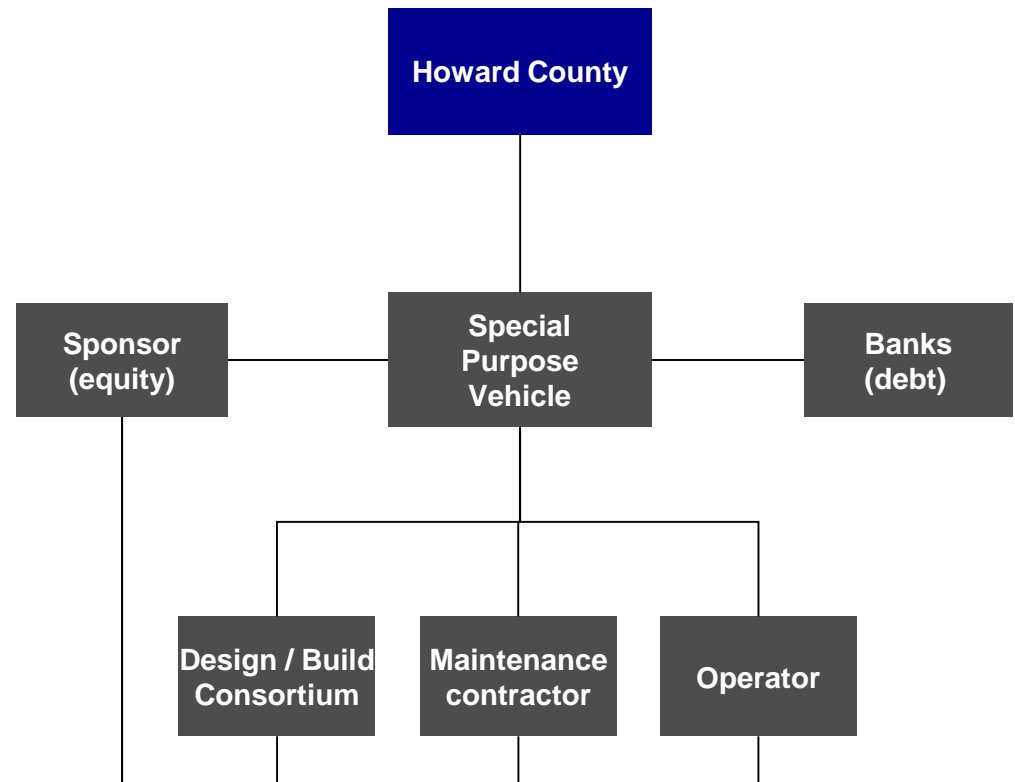
This discount rate is often based on financing costs of government or government bonds. If this discount rate is used in a VfM assessment, project risks are not included in the discount rate and are accounted for in the project cash flows. In this context, “risk free” means “not including project risks”, whereas the discount rate reflects the risk associated with the creditworthiness of the public agency. This discount rate is recognizable and very easy to determine. The challenge of using this discount rate is that the project-specific risks in a P3 approach that are typically included in the a risk premium (as equivalently reflected in the WACC) must now be explicitly priced in a different way.

Discount rate with project-specific risk premium

A discount rate with a project-specific risk premium reflects the risk profile of the cash flows. In project finance deals the financing costs reflects the risk profile of a project, which is why this discount rate is market-based. To use market-based information of the cost of capital one should carefully analyze the way the private bidder structures its organization and allocates and values risks (see next slide). This discount rate is in line with the private sector approach to risk valuation. The challenge of using this discount rate is that determining a reliable rate is more difficult, which can result in extensive debate or criticism of this methodology.

SPV and Weighted Average Cost of Capital

- In a P3 transaction, the government transfers a set of tasks and risks to a Special Purpose Vehicle (SPV), a project entity that is established for the sole purpose of entering into a P3 contract with the public agency and delivering the services as described in the contract.
- Risk pricing follows the organizational structure of a P3 special purpose vehicle (SPV). Most of the risks are typically subcontracted out by the SPV and are therefore reflected in the cash flows of the bid. Some of the risks are explicitly or implicitly (for example through caps on liabilities in subcontracts) retained by the SPV.



SPV and Weighted Average Cost of Capital

- These risks not only include the typical systematic risk categories – for example inflation, interest rate - but also other risks that cannot be subcontracted and that are associated with the lengthy and integrated characteristics of the contract: long-term performance risk and project coordination risks.
- The financiers - both debt and equity - appreciate these risks in their required rates of return, as reflected in the project's weighted average cost of capital (WACC). This WACC will be higher than the government's discount rate, because there are more and greater risks to the SPV.
- The precise risk allocation needs to be carefully taken into consideration to avoid double-counting and to provide consistency when comparing the conventional delivery model to the P3 delivery model.

Two discounting approaches in VfM assessment

- Under traditional project delivery, systematic risks, long-term-performance risks, and project coordination risks are typically retained by the public agency. Globally, jurisdictions have found different ways of dealing with these categories of risks.

Value risks in the cash flows

Valuing risks in the cash flows of the conventional delivery model means using the appropriate valuation methods to incorporate all risks in the cash flows, not in the discount rate. In the P3 delivery cash flow, the appropriate cost of capital will be used to reflect the value of risks. The Net Present Value (NPV) of both cash flows for both delivery models are calculated on the basis of a risk free discount rate.

The advantage of this method is that - in theory – it is straightforward and easy to follow. However in practice the valuation often proves to be very complicated, particularly surrounding the valuation of typical SPV coordination and interface risks - categories associated with the long-term and integrated characteristics of the contract.

Use a market-based discount rate

In this approach the risks in this category are valued in the conventional delivery model by applying a market-based discount rate for the NPV calculation. This uses a fair estimate of an appropriate discount rate reflecting SPV risks, based on market information on the weighted average costs of capital (WACC) of similar projects. In the P3 delivery model, the appropriate cost of capital will be used to reflect the value of similar risks. The discount rate that is based on the WACC is also used for calculating the NPV of the P3 delivery model.

The advantage of this approach is that there is market-based information available for risk pricing, and the risks are priced in the same way in both the conventional and P3 delivery model, making them directly comparable.

Base Case NPVs under the four delivery models

NPVs at Risk-Adjusted Discount Rate (WACC)

DBB + OM	DBOM	DBfOM	DBFOM
- \$181 million	- \$170 million	- \$166 million	- \$166 million

NPVs at Risk-Free Rate + Retained Risk under DBB + OM and DBOM

DBB + OM	DBOM	DBfOM	DBFOM
- \$328 million	- \$310 million	- \$303 million	- \$336 million

Appendix IV: Case Studies

Case study: Durham Consolidated Courthouse

Overview

- Centralizing the Superior Court of Justice and the Ontario Court of Justice administered court facilities in the Durham Region into a newly constructed Durham Consolidated Courthouse (DCC) on a 4-acre formerly industrial brownfield site
- 451,620 sqft, 6-story building, with: 33 court rooms, three motion rooms, conference / settlement rooms, related support functions, detention facilities, below grade holding facility with sally port, and private parking for staff and judges.
- Partner is Access Justice Durham (AJD): consortium including WZHM Architects, Canada Branch, PCL Constructors Canada Inc, and John Controls LP. Financing partner is Babcock & Brown Infrastructure Group

VfM details

- VfM analysis was completed April 2007, based on a comparison of the total estimated project costs under a (1) traditional delivery approach, and (2) a Alternative Financing and Procurement (AFP) model based on the final bid price as concluded on 3/2/2007
- Estimated total project cost savings of \$49M (11.47%) for delivering DCC using the AFP model



Durham Consolidated Courthouse: Fast Facts

Building type:	New courthouse construction
Building size:	451,620 sqft
Contract scope:	Design, build, finance, operate and maintain (maintenance includes repair and lifecycle replacement)
Duration:	33-month construction period 30-year maintenance
Financial close	May 2007
Year of completion:	November 2009
Contract value:	\$334M (CAD 2009)
Value for money:	On budget, on schedule

Case study: Durham Consolidated Courthouse



Project Schedule	
Request for qualifications issued	3/31/2005
Request for proposals process	2/15/2006 – 10/5/2006
Bid submission	10/2006
Preferred bidder selected	12/22/2006
Financial & commercial close	3/1/2007
Construction	5/2007 – Fall 2009
Maintenance	2009 - 2039

Project Agreement Details

Scope of agreement, Access Justice Durham will:

- Design and build the DCC
- Finance construction and capital costs of the facility over the term of the project
- Obtain third-party independent certification that the facility is built to specifications
- Project facility management, lifecycle maintenance and other facilities management services for the 30-year service period under pre-established maintenance performance standards as outlined in the Project Agreement
- Ensure that at the end of contract term, the buildings meet the conditions specified in the Project Agreement

Facility management and maintenance

- Services associated with management of physical building, including: building and equipment maintenance, utilities, 24-hour help desk, environmental and waste management, interior and exterior cleaning, grounds maintenance and landscaping, security, food service, and lifecycle maintenance

Payment mechanism

- Monthly service payments of \$19.75M based on performance requirements as defined in the Project Agreement after the courthouse is open to the public.
- Payments are subject to financial deductions if performance standards are not met.

Case study: Durham Consolidated Courthouse

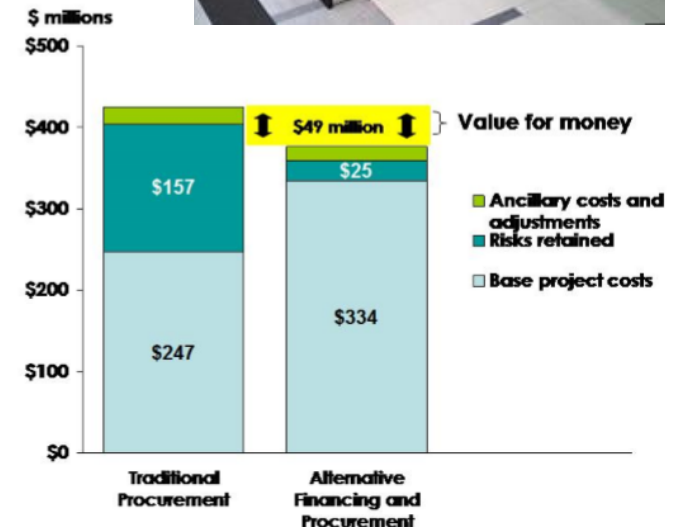
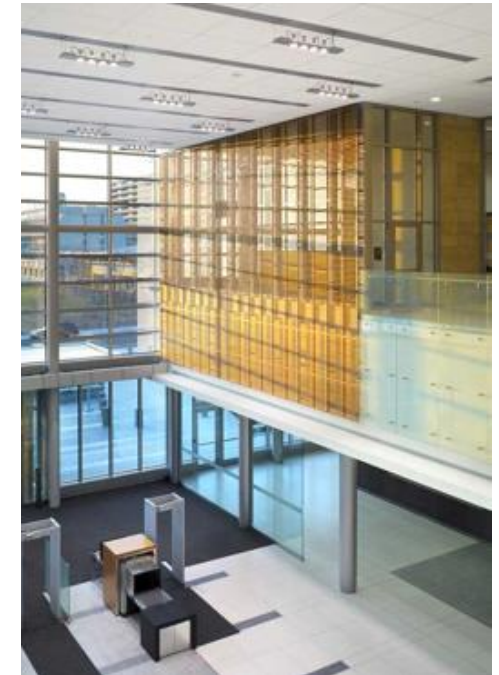
Key Project Risks Transferred to Access Justice Durham

Construction price certainty	<ul style="list-style-type: none"> AJD will provide DBFOM services and be repaid over the 30 years after substantial completion AJD's monthly payment may only be adjusted in very specific circumstances, agreed upon in advance, and in accordance with the detailed change order procedures set out in the Project Agreement
Scheduling, project completion and delays	<ul style="list-style-type: none"> AJD agreed to complete construction by late 2009 Any modification in project schedule can only be done in accordance with the Project Agreement
Building design	<ul style="list-style-type: none"> Project Agreement stipulates that AJD is responsible for designing the facility in such a way that it meets the Province's performance requirements
Facilities maintenance risk	<ul style="list-style-type: none"> AJD is responsible for meeting the performance requirements for maintenance as outlined in the Project Agreement AJD's payment under the Project Agreement is contingent on their ability to perform to these standards

Results of analysis of project risks retained by public sector under each delivery model

Average value of project risks retained by public sector under conventional delivery: \$157M per 2007 VfM analysis

Average value of project risks retained by public sector under AFP delivery decreases to \$25M



Case study: Long Beach Courthouse

Overview

- New 530,000 sqft courthouse for the Superior Court of Los Angeles County, with 31 courtrooms, administrative space, offices of related county justice agencies, and ~ 50,000 sqft of commercial office and retail space. Project includes renovation and expansion of nearby existing parking structure (over 900 spaces)
- Both court building and parking structure will be managed by the private consortium
- Consortium is Long Beach Judicial Partners, LLC (LBJP), consisting of: AECOM Design, Clark Construction Group, LLC, Edgemoor Real Estate Services, and Johnson Controls Inc.
- Clark Design / Build of CA, Inc. bonded its performance under a \$350M, fixed-price, date-certain delivery contract
- Johnson Controls Inc. guaranteed its facility management, operations, and maintenance performance and will manage hand-back to the State of CA

Financing and payment details

- Developer Meridiam Infrastructure paid \$49M in equity at financial close
- Debt provided by: BNP Paribas, BBVA, Scotia Bank, Credit Agricole, Royal Bank of Canada, and Deutsche Bank
- Payment for first full year of occupancy (2014 – 2015) is set at \$53.65 M, assuming no deductions for poor performance



Long Beach Courthouse: Fast Facts

Building type:	New courthouse construction
Building size:	530,000 sqft
Contract scope:	Design, build, finance, operate, and maintain
Duration:	35-years
Financial close	December 21, 2010
Year of completion:	2013
Contract value:	\$720M (NPV)
Value for money:	4% savings On time Budget certainty

Case study: Long Beach Courthouse



Project Schedule

Request for qualifications issued	11/2008
Shortlist of bidders announced	6/2009
Draft RFP issued (includes draft Project Agreement)	6/2009
Confidential working sessions with bidders	6 – 9/2009
Technical proposals due	10/2009
Financial proposals due	12/2009
Preferred bidder selected	6/2010
Financial & commercial close	12/2010
Construction	4/2011-9/2013
Maintenance	2013 - 2048

Project Agreement Details

Scope of agreement, Long Beach Judicial Partners (LBJP) LLC will:

- Design, build, finance, operate, and maintain Long Beach Courthouse
- Design – build includes: all applications and obtaining and maintaining all governmental approvals required to perform the design-build work including the payment of all fees, costs, and charges associated with governmental approvals
- Required to obtain LEED NC Silver Certification for the project. If LBJP fails to achieve certification, a \$2M payment needs to be made to AOC
- Improve, operate, and maintain parking structure
- Operations and maintenance includes: daily building operations, regular maintenance, repair and replacement of building elements, roads and grounds maintenance, janitorial services, elevators and conveyance systems, asset and recycling management, security electronics,

Independent building expert (IBE)

IBE was jointly appointed by AOC and LBJP to:

- Review design documents to confirm compliance
- Conduct structural peer reviews, test construction materials and inspect project during construction
- Act as mediator prior to final completion
- Inspect the project and determine if the occupancy readiness certificate can be issued

Payment mechanism

- State of CA pays fixed annual payment for design, construction and financing.
- Annual payment commences once court building has been completed and available for occupancy
- Annual payment representing costs of ongoing operation and maintenance are adjusted annually to reflect changes in an agreed-upon inflation index
- Performance-based compensation will not vary based on actual costs incurred by LBJP
- Payments are subject to financial deductions if performance standards are not met.

Case study: Long Beach Courthouse

Key Project Risks Transferred to Long Beach Judicial Partners

Construction price certainty	<ul style="list-style-type: none"> State's annual payment for design, construction, and financing is fixed and the O&M payments are adjusted at an agreed upon escalation—this provides annual obligation certainty for the State
Scheduling, project completion and delays	<ul style="list-style-type: none"> Any modification in project schedule can only be done in accordance with the Project Agreement
Building design	<ul style="list-style-type: none"> Project Agreement stipulates that the private party is responsible for designing the facility in such a way that it meets the AOC's performance requirements
Facilities maintenance risk	<ul style="list-style-type: none"> LBJP is responsible for meeting the performance requirements for maintenance as outlined in the Project Agreement LBJP's payment under the Project Agreement is contingent on their ability to perform to these standards



Results of VfM analysis based on the price of the P3 contract at financial close (2010)

Showed savings of \$26M or 3.5% when delivered as a P3 compared with conventional delivery

Net present cost of risks retained by the AOC decreased from \$143.1M to \$28.8M

Appendix V: FAQs

FAQs (1)

Q: How can Howard County prevent underbidding, and abuse of change order mechanisms?

A: Just as under conventional delivery, underbidding is possible under P3 delivery. Here are some common P3 mechanisms that can help Howard County avoid this:

- The strategy of “underbidding” and then using the change order process to increase price has a betting element to it. Financiers are typically not very fond of betting. Financiers – contrary to investors and developers – are conservative by nature. Their main concern is to have certainty regarding their debt service. If financiers are not convinced the work can be done for the price bid, they will have very serious hesitations with providing financing. Having financing be part of the contract therefore provides a safeguard against underbidding.
- In a typical P3 procurement, the full P3 contract is included in the RFP. The P3 proposals need to be fully compliant with the RFP and cannot include any conditions deviating from that P3 contract, which makes “building landmines into the proposal/contract” more complicated.
- P3s are new to Howard County, but have been used extensively throughout the world and in the US. The P3 contracts and best practices that are currently being used are the result of optimization in many P3 transactions and lessons learned such that many issues have already been identified and resolved.
- One of the key clauses in a P3 contract is a change clause that provides a transparent procedure and a benchmarking mechanism for change orders.
- It is common to include expected and more or less “standard” changes in the initial procurement, that is the pricing of clearly specified changes will be included in the evaluation of the bids.

However, even though these mechanisms are proven and work well, underbidding cannot be completely avoided under any delivery model.

Q: How do output-based specifications work in a long-term P3 contract?

A: Output-based specifications allow for maximum flexibility for the P3 developer, in order to incentivize them to achieve innovation in design, construction, and O&M delivery over the duration of the long-term contract. Output-based specifications are set forth in the form of measurable technical output / service / performance criteria, but do not specify the use of specific materials, or procedures for achieving the desired outputs or level of service.

FAQs (2)

Q: What is the definition of “availability”?

A: “Availability” is defined and specified in the P3 contract (Project Agreement) between the project sponsor and the P3 developer. Availability requirements are typically limited to the elements that are the most important to the project sponsor and critical to overall provision of the service. Conversely, the concept of “unavailability” is equally important, and also defined clearly in the P3 contract. Unavailability usually leads to a deduction or adjustment of the availability payment that is paid from the project sponsor to the developer.

The P3 contract typically provides for a cure period within which the unavailability can be rectified without the P3 developer incurring any penalties. If the P3 developer fails to rectify the unavailability within the said cure period, then penalties commence.

Q: Is the sufficient market appetite for this type of P3 in this area?

A: Domestic and international developers, equity funds and engineering and construction firms typically lead P3 consortiums. Local and regional contractors and services companies are expected to be subcontractors to these lead firms. The below table shows historical data on the number of respondents to RFIs and RFQs for U.S. social infrastructure P3 projects and Availability Payment P3 projects. This data supports the expectation that there is significant market appetite for P3s, increasingly for Availability Payment P3s and in social infrastructure, provided that the bidders expect a well-planned and executed procurement and a reliable public partner.

	# of deals	RFI Avg.	RFQ Avg.	RFP Avg.	RFP Min	RFP Max
Social P3s	21	17.1	7.6	4.3	1.0	9.0
AP P3s	27	13.8	5.9	4.2	2.0	11.0

Q: How does the selection process assure against simply having the lowest bidder win?

A: The RFP and the P3 contract will specify a range of minimum requirements related to timing of completion, risk transfer and quality level. The lowest bidder in the context of a P3 would mean the lowest life cycle costs, which already is a significant improvement from the lowest investment costs under conventional procurement. Moreover, it is P3 best practice to evaluate bids on the basis of “best value” not “lowest price” and therefore include other key policy objectives in addition to the price.

FAQs (3)

Q: How does hand back after the P3 contract duration work?

A: Example of hand-back provision in Long Beach Courthouse. For other examples, and more information, see the FHWA's Availability Payment Concessions Public-Private Partnerships Model Contract Guide <http://www.fhwa.dot.gov/ipd/pdfs/p3/apguide.pdf>

- At the end of the term, the Project Company must comply with the hand-back requirements included in the Project Agreement, which requires the project and each element thereof to be in a condition that is consistent with: (1) having been designed and constructed in accordance with the applicable design life requirements specified in the Project Agreement and the useful life standards established (on a weighted average useful life basis for all systems and equipment in the aggregate) by the Project Agreement; and (2) the Project Company having performed the operating services in accordance with the Project Agreement.
- The Project Agreement states that two years prior to the end of the term, the parties are to conduct a joint inspection and survey of the project, and if the survey determines that any portion of the project, will not comply with the hand-back requirements at the expiration of the term, the Project Company is required to produce a performance plan relating to the additional work necessary to remedy any deficiency, and the AOC will determine the cost amount believed to be reasonably necessary to complete such additional work. The AOC is permitted to hold back and retain from the service fee an amount equal to the estimated costs and deposit that amount in an interest-bearing bank account to be paid to the Project Company only upon the submittal of certified requisitions to the AOC by the Project Company for reimbursement of amounts actually expended in performance of the additional work necessary to meet the hand-back requirements.

Q: Could Howard County simply write a specification under a conventional contract structure (or a series of contracts) that is informed by lifecycle costing such that it achieves some of the expected benefits of a P3?

A: P3s have a different governance, incentive mechanism and risk allocation than conventional delivery. Differences in governance, incentive mechanism and risk allocation lead to different results. For example:

1. Organizing competition on lowest capital costs (typically used within conventional contract structures, particularly if there is a series of contracts) is likely to lead to other results than organizing competition on lowest life cycle costs (which is incentivized under a long-term P3 contract structure, that allows for the P3 developer to make trade-offs with a long-term, lifecycle cost interest in mind).
2. Optimizing life cycle costs is easier under a governance system that stimulates that, than under a governance with constraints in the budgetary system that complicate life cycle costing—particularly if there is not the ability to make longer term budgetary decisions.
3. Allowing for innovation through output-based specifications is likely to lead to more creative solutions than not allowing for innovation through input based specifications (which is typically used within conventional contract structures).
4. Transferring risks to the private sector is likely to lead to better risk management by the private sector than not transferring risk to the private sector.